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JOINT OPERATIONS AND THE VICKSBURG CAMPAIGN

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

by

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M.S., Florida Institute of Technology, Melbourne, Florida, 1991

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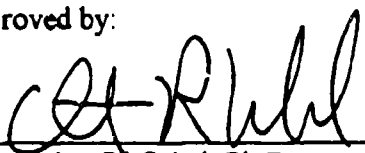
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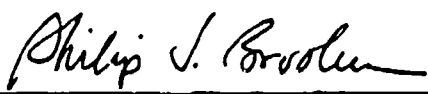
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ABSTRACT

JOINT OPERATIONS AND THE VICKSBURG CAMPAIGN by MAJ John W. Tindall, USA, 142 pages.

This historical study investigates why Union joint operations between army and navy forces on the Mississippi and other western rivers were effective. It examines the development of a joint doctrine at the strategic, operational, and tactical levels of war.

Joint riverine warfare on the western rivers was a new experience for the U.S. military. There was no clear delineation between services of specific missions or responsibilities. Joint operations incorporated numerous battlefield operating systems that the leadership had to integrate and synchronize.

At the strategic level, Washington attempted to provide adequate vessels and other resources for the war on the rivers. However, the national leadership never did institute an adequate joint command and control structure for the Western Theater.

The army operational commanders came to depend on the advice of the naval officers for acquiring vessels and advice on water-borne operations. On the other hand, the naval officers relied on the infrastructure of an established army to facilitate their operations.

The personalities of the joint leadership were important factors in the success of joint warfare. Grant, Sherman, and Porter developed a special relationship, which allowed them to overcome tactical disagreements, and maintain a clear focus on the strategic objective of capturing Vicksburg.

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CHAPTER 1

INTRODUCTION AND JOINT STRATEGIC SETTING IN WASHINGTON

While I am not called upon to express an opinion as to the necessity for the construction of so large a flotilla, I have no doubt that the government is bound to pay the contractors their reasonable expenditures; and I have no doubt if armed and equipped, and well manned, the vessels will add to the strength of the army in the west, and conduce to the success of the expedition intended to open the Mississippi.¹

Correspondence from General M. C. Meigs to the Hon. Simon Cameron, December 10, 1861.

Introduction

There was not an official joint doctrine for army and navy forces during the Civil War. This correspondence from General Montgomery C. Meigs, the quartermaster general of the army, to the Secretary of War Simon Cameron illustrates some of the fundamental problems that hindered joint cooperation between the army and navy at the outset of the War. Initially, the General-in-Chief, Brevet Lieutenant General Winfield Scott designed the strategic goals for the Union. He felt the formula of a coastal blockade, amphibious forays using the Atlantic and Gulf coasts, and a great joint expedition down the Mississippi would result in the collapse of the Confederacy.² Once the ships were available, the coastal blockade and amphibious operations were the types of missions the existing blue-water navy could readily attempt. Clearly, the War of 1812 and the Mexican War laid the groundwork for these types of operations. On the other hand, a joint expedition down the Mississippi River would be a novel experiment requiring a new naval force, a "fresh-water" navy cooperating with the army against land objectives. The only other significant antebellum U.S. experience in this type of riverine warfare was the

U.S. Marine Corps in the Florida Everglades from 1837 to 1842. In the Civil War Joint doctrine, especially joint riverine warfare doctrine, developed unofficially in the crucible of combat using a trial and error approach. Therefore, the joint Mississippi expedition presented unique challenges for Union army and navy forces to quickly determine what joint command and control arrangements, joint maneuver warfare techniques, and joint logistics would keep them alive and sustained for future fighting.

These challenges, and how the Union leadership approached them, can provide valuable lessons for the present day military officer. This is especially true in the joint arena on rivers or inland waterways. The most recent army and navy cooperation in riverine warfare was in the Mekong Delta during the Vietnam War and was mainly at the tactical level of war. Two army officers wrote in a 1967 Military Review, "The movement of combat battalions and support units of the U.S. 9th Infantry Division into the Mekong Delta has brought to the U.S. Army a new challenge"3 Even during this war the U.S. military did not have an officially published joint doctrine at any level of war. In this regard, the Mississippi expedition during the Civil War covered a broader spectrum of war. It exhibited joint implications at the strategic, operational, and tactical levels of war at the very earliest stages of development. Thus, this thesis will explore why joint Union army and navy operations along the Mississippi were essential for success, and ultimately resulted in the capture of Vicksburg on July 4, 1863. It will focus on the benefits and limitations of joint army and navy cooperation in combat, combat support, and combat service operations culminating in the surrender of Vicksburg. Additionally, the analysis of the strategic and operational impacts will add to the knowledge gained from previous joint army and navy riverine tactical warfare.

Joint Strategic Setting in Washington

At the national level, both President Lincoln and General-in-Chief Scott knew the psychological and logistical importance of controlling the Mississippi. One of the biggest problems was that the unseasoned political bureaucracy and military staff had difficulties in implementing and supporting their plans. Until October 1862, Secretary of War Simon Cameron was responsible for both army and navy operations to secure the Mississippi River. This also meant procuring the transports, gunboats, and ironclads needed. This inevitably led to political competition with the Secretary of the Navy Gideon Welles, who was administratively responsible for the naval personnel of the Western Flotilla. Naturally he was protective of his service's reputation in the eyes of the administration, just as Cameron was for the army's reputation. There were numerous disputes about which service should receive credit for a victory or blame for a defeat.

In theory, unity of effort with the civilian Secretary of War managing the common direction and objectives for army and navy cooperation was an ideal concept. Although, as noted above, in practice this was not the case. Not only parochialism, but personalities and politics played a major role in determining the course of joint operations at the strategic level. Simon Cameron was a political appointee with a poor reputation throughout the administration for suspect contracting practices. Allegedly, Cameron as the Secretary of War influenced contracts for shoddy products sold to the Indians, and received kickbacks from the contractors. Moreover, military matters were also not his strong suit. This would change early in 1862 when Edwin Stanton would take over as Secretary of War; thereafter working long, hard hours to learn, direct, and control military affairs.

For the navy, Secretary Gideon Welles was a thorough and efficient administrator. President Lincoln echoed the admiration of other administration members when he called him "Father Neptune," referring to his knowledge of the navy.⁴ Welles was rarely

successful in changing the strategy adopted by the War Department. Fortunately he was successful in procuring the right contractors to build, and the naval officers to man, the specially designed ironclads that would operate with the army in fighting the war on the Mississippi.

Lincoln as Commander-in-Chief took a keen interest in military operations. This interest extended to all facets of warfare, especially the riverine warfare that had started in the West. Additionally, since he was also a former Mississippi flatboat man himself, Lincoln certainly could see the military potentialities of the river. Therefore, due to inexperienced and inept subordinates, he was a powerful force behind strategy formulation and logistics. Initially, he agreed with and supported Scott's "Anaconda Plan," especially along the Mississippi. Early in 1862, dissatisfied with the lethargic movements of his forces, Lincoln issued "General War Order No. 1," and

Ordered that the 22nd day of February 1862, be the day for a general movement of the Land and Naval forces of the United States against the insurgent forces. That especially - The Army of the Potomac The Army and Flotilla at Cairo, be ready for a movement on that day.⁵

Called the "President's Day Order," it is of interest because of three factors. First, it directs and implies joint cooperation between the army and navy. Additionally, the listing of the army and flotilla as coequals, a precarious command relationship, demonstrates the reliance Lincoln placed on both services in the West. Secondly, the third paragraph stated that Lincoln would hold the Army and Navy Secretaries fully responsible for the order's prompt execution. Finally, it is indicative of the vague and general nature of strategic direction coming from Washington, especially for the operations conducted in the vicinity of the Mississippi River. To sum up Lincoln's feelings at the time, was that he wanted action militarily, and he wanted it as soon as possible.

As opposed to strategy, Lincoln gave very detailed and precise guidance involving logistics on the Mississippi. This was good in terms of getting the resources in the hands

of the joint operational commanders. One of his primary areas of concern was the armament and transports that the navy needed to support the army. The Western Flotilla commander, Captain Andrew H. Foote, needed additional mortar boats to augment the fire power of the gunboats and army. Lincoln became aware of the situation, and wanted periodic status reports from Foote about the augmentation. The reports came through the Bureau of Ordnance and Hydrography in the Navy Department and included such detailed information as the number of mortars, the type of platforms, and purchasing locations.⁶ Similarly, when Foote went to purchase steam transports for the army in Cincinnati he wired back to Lincoln to ask permission to buy two instead of one. Lincoln realizing the importance of the transports for the army's mobility, replied "go ahead." Whether Lincoln's interest in logistics was due to curiosity in the implements of war, or a natural tendency to pursue problems that he had prior familiarity with, does not matter. What does matter is that he was instrumental in putting the weapons and vessels in the hands of the water component commander, so that the commander could effectively support the land forces.

At the beginning of the war the military establishment in Washington grappled with some of the same problems as the politicians. Along with others, strategy formulation and joint cooperation between the services was of particular concern. General Scott's position as General-in-Chief really only made him an advisor to the President. It provided no legal or constitutional authority for him to order a service to plan and operate with other services. Even at the time Scott was not considered to be vigorous and innovative enough to perform as General-in-Chief. In the joint arena he was the best choice for the job. Amphibious operations in the Mexican War allowed him to establish a close working relationship with the navy. Captain Samuel F. Du Pont, the senior officer in the Navy Department, endorsed and firmly supported Scott's initial strategic plans.⁷ Support in this

case, however, was probably more for the coastal blockade than the joint operations on the Mississippi.

Scott's position was, in essence, the equivalent of a present-day Army Chief-of-Staff. He had about twenty-three army officers to assist him in his duties. This was too few staff officers to successfully plan and implement strategy, logistics, and joint operations decisions. The primary place where this took place was in the War Board. This board consisted of the numerous army bureaus: adjutant general, quartermaster, ordnance, commissary, and engineer. Besides senior service heads, the interface between the army and navy occurred normally first and foremost through the army quartermaster department. This was a logical starting point because of the fundamental importance of moving the army's forces. To attack or shift positions in a defensive scenario, the army must have the required lift assets. The quartermaster had responsibility for steamboat transports, wagons, horses, tugboats, and gunboats (doubling as transport), for accomplishing the mobility mission. Just about every military department had rivers or large bodies of water that could use waterborne vessels to enhance the mobility of their units. In fact, for some of the Western Department commands, roads were not sufficient for moving an army. On top of this, most Union forces did not have enough wagons and draft animals.⁸ Consequently, coordination did occur within the War Board. This coordination resulted as the army officers strived to gain information from naval experts on the correct type vessels, and how to use water mobility routes to maximum advantage.

The quartermaster bureau was very important, but this is not to imply that the other bureaus lacked joint coordination responsibilities as members of the War Board. Expansion of the Flotilla fleet required enlisted men to man the new vessels. Trying to fill vacancies on the water craft usually started with the Flotilla commander scouring the local countryside to find volunteers. When this did not work, he resorted to recruiting soldier volunteers from the army's regiments and division, with the unit commanders' permission

of course. Invariably this recruiting effort would not fulfill the naval commander's needs. He would then elevate a request for assistance to the Department commander's headquarters, who would in turn forward it to Washington with an endorsement for assistance.⁹ There it would cross the desk of the Adjutant General Lorenzo Thomas, Chief of the Adjutant's Department, who in joint consultation with the navy bureau would pursue ways to fill these manpower shortfalls. The three primary methods of recruiting were: diverting sailors from the blockading fleets; obtaining volunteer soldiers from the eastern forces; and signing up recruits specifically for the Western Flotilla. A telegram from Gustavus V. Fox, Assistant Secretary of the Navy, to Captain Andrew H. Foote, Commander of the Western Flotilla, is representative of this interservice coordination. In it Fox tells Foote about some forthcoming recruits: "the Secretary of War to-day gave directions to detail from several Massachusetts regiments those soldiers who have been seamen up to the number of 600 "¹⁰

This was a recruiting action that was successful. However, it required all the infinite service requirements that commanders needed to accomplish for care of their soldiers or sailors. For example, soldiers transferred from the Army of the Potomac to the Western Flotilla acrimoniously complained of not getting their last army pay. Foote explained his policy: "I pay them as seamen at the rate of \$18 per month from the time of entering in the gunboat service, without any reference to their army accounts." He went on to say that they should "be paid up to the time of their transfer to the Navy."¹¹ This constituted a unique example of the naval commander backing his soldiers turned sailors, and pressuring the Washington military bureaucracy to provide their pay. Eventually President Lincoln ordered the "War Office to pay the men transferred from the Army."

Likewise, the ordnance and commissary bureaus handled requests from Department commanders for interservice use of ammunition and rations. Shortages of ammunition in the flotilla forced the Assistant Inspector of Ordnance, Captain Henry

A. Wise, U.S.N. to request help from the army. President Lincoln directed the army's Chief, Bureau of Ordnance, General John W. Ripley, to supply at Cairo whatever ammunition the gunboat flotilla required.¹² Army and navy units drew rations from depots containing stocks for both services. The Chief of the Commissary Bureau accounted for, and requisitioned food items based on strength figures for both army and navy elements in the Department. Joint cooperation and coordination, whether in a formal or informal manner, was necessary across all War Office bureaus.

The War Board existed as a formal structure for the first year of war, thereafter functioning only on an informal basis. This change did not affect joint coordination to a great degree. The board accomplished informally about the same missions for joint coordination as it had with a formal status. This formal versus informal arrangement was not surprising considering the tremendous volume of off-line joint planning, coordinating, and controlling conducted in Washington, not doable in a formal setting. It was also typical of organizational turbulence characterized by breaks in continuity at key positions, changing priorities, and shifts in joint strategic thought. All these would have an enduring effect on joint army and navy operations. Changes in the War Board occurred about the same time as key changes in the administration. The first change was Stanton replacing Cameron as Secretary of War. There was some friction between the services as Stanton, the efficient administrator, exerted control. Gideon Welles writes in his diary about Stanton's arrival and subsequent actions.

When Mr. Stanton came into the War Department . . . he assumed that the Navy was secondary and subject to the control and direction of the military branch of government . . . Stanton claimed that, instead of consulting and asking, the military could order naval assistance, and that it was the duty of the Secretary of the Navy and naval officers to obey.¹³

This relationship between Stanton and Welles would mature over the next three years into a vibrant force behind joint operations, but initially it lacked harmony. Although they both

saw the need for the army and navy to work together, the joint concept was not totally ingrained in either individual's psyche. This was all too obvious when Stanton approached Welles in June of 1863 about publishing a military journal called the Army and Navy Gazette. Welles commented that, "The proposition was . . . novel to me, and I know of no law to warrant it . . . I should therefore decline any pecuniary, official or personal responsibility, or any connection with it."¹⁴ Either individual did not understand the degree of army and navy cooperation that would have to occur at the operational and tactical levels of war to be successful. Stanton canceled the formal War Board, and replaced it with long laborious meetings. These meetings did not go into enough detail about joint army and navy operations. Consequently, an informal board developed, which covered the numerous joint operations' concerns in far more detail.

Concurrently, the general-in-chief's position saw three changes in the first year of the war. Scott, as previously mentioned held the position initially, followed by Maj. General McClellan for a short stint, and finally Maj. General Henry W. Halleck. All three brought different perceptions about the strategic employment of army and navy forces in joint operations. Of the four, Halleck had the best grasp of the strategic possibilities of concentrating army and navy forces and using interior lines to clear the Mississippi River.¹⁵ Again, Gideon Welles voices discord about Halleck's impact on strategic direction in joint operations, and the perceived pervasive influence on the president by General-in-Chief Halleck. The "President; he wishes all to be done, but yet in army operations [including the subordinate Western Flotilla] will not move or do except by the consent of the dull, stolid, inefficient, and incompetent General-in-Chief."¹⁶ Welles' statement was not correct about Halleck's competency. This is where Welles' strong personal, not professional, feelings about his peers shined through. Halleck had shown himself to be an efficient and intelligent administrator and advisor. Halleck understood

joint warfare on the western rivers, having been the former Department of Missouri commander. The advice given to Lincoln by Halleck, would be valuable indeed.

These changes in leadership show how difficult it was for the administration to pursue a consistent strategy in joint operations. Consequently, some officers were in charge who did not understand the navy. They did not know the topography of the Mississippi region for planning joint operations. Finally, there was not time to form habitual relationships among senior army and navy officers in Washington. Such relationships were essential for developing successful joint operations strategy.

Moreover, numerous joint operations on the east, southeastern, and southern coasts took precedence over the joint Mississippi River expedition. The attempted turning movement to the Peninsula by McClellan's Army of the Potomac involved an extensive joint army and navy effort. This operation received priority for Washington's joint planning and logistics support for many months in 1862. Farther down the coast, joint amphibious operations against Confederate port defenses at Wilmington, Charleston, and Savannah would become at one time or another number one strategic priorities. Operations using combined army and navy assets against salt works along the Florida panhandle region would not become a top strategic priority, but did divert joint forces in conducting them. Another top administration priority, because of its commercial and political implications, was joint operations to open Mobile Bay and New Orleans to Union shipping. Initially, all of these joint operations took priority over the Mississippi joint expedition because of the relative distances between theaters and of the very real threat to Washington. Public and political pressure was a real factor in forcing the army and navy to conduct operations to satisfy northern public opinion. Therefore the ad hoc joint planners concentrated their efforts on providing planning, operational control, and resources to these areas before the Mississippi. It was good experience in joint cooperation for each service's staff officers. However, the large number of operations,

with limited planning time before execution, resulted in staff officers gaining only superficial knowledge of the other service's capabilities at the strategic level. This limited knowledge shows in the lack of detailed joint strategic direction provided from Washington for the intricate joint operations required of army and brown-water navy elements in the Mississippi region.

More fundamental to specific strategic joint operations was what these joint operations were for. Three strategic army and navy missions were apparent in the area of the Mississippi. One mission was to clear the Mississippi for use as a high speed avenue-of-approach into the deep south. Another was the prevention of Confederate commerce on the river. Opposite of the second was the protection of Union commerce on the river. Each mission had some complementary aspects, and required both a land and a naval force for success. The biggest problem at the strategic level was how to bring the politicians, army, and navy into some sort of agreement on what was important for the ultimate war aims in the western theater. Politicians worried about economics and constituents which sometimes were not in the best interest of military operations.¹⁷ The military on the other hand, labored towards protecting its lines of communication on the rivers and defeating the enemy's army and limited inland navy. These separate factions (army, navy, and politicians) presented a divergence of opinion that would hinder the conduct of joint operations on the western rivers. However, all parties seem to agree that defeating Confederate river strongpoints, such as Vicksburg, using land and water forces were "key" to achieving their varied goals.

In sum, the Union command structure at the beginning of the war had a limited ability to implement and affect joint strategy. Personalities and bureaucratic infighting between the War Department and Naval bureau was detrimental to interservice cooperation. Neither did the civilian leadership fully understand the importance of cooperative efforts to fight battles, especially on the Western Rivers. On the military side,

the generals-in-chief were more knowledgeable about joint warfare requirements. They initially coordinated their plans and operations through a formal war board, which evolved into an informal structure. This was indicative of the changing personalities in the general-in-chief's position and War office. It was also inevitable because of the many joint planning requirements. For Washington's civilian and military leadership, changing strategic priorities, and the lack of initial continuity in key positions would degrade joint operations on the Mississippi. These factors and more resulted in very little joint strategic guidance for operations on the Western rivers from Washington.

Conversely, the national civil and military leadership in Washington provided a significant impact on logistics for strategic joint operations. President Lincoln, Gideon Welles, and various bureaus in the War office pursued putting the right armament and vessels on the rivers to support the army. This was a contribution made possible because of Lincoln's knowledge and appreciation for the western rivers, and Welles efficient organization in the naval bureau. Militarily, General Meigs as the quartermaster worked harmoniously in obtaining the army and navy equipment necessary to wage the war on the western rivers. Additionally, by the middle of 1862 General-in-Chief Halleck, a former Western theater commander, possessed an intimate knowledge of army and navy joint requirements and capabilities.

The next chapter will investigate how Halleck (up until the middle of 1862) and General Ulysses S. Grant performed as joint operational commanders with little or no joint strategic guidance from Washington. The importance of logistics to their armies will highlight Washington's fortunate influence on this important element of army and navy operational warfare.

CHAPTER 2

JOINT OPERATIONAL LEVEL DEVELOPMENT BEFORE VICKSBURG

If all the gunboats that can will immediately make their appearance to the enemy it may secure us a victory. Otherwise all may be defeated . . . I must order a charge to save appearances. I do not expect the gunboats to go into action, but to make an appearance and throw a few shells at long range.¹

General Grant to Commodore Foote, February 15, 1862

Joint Operational Level Command and Control

The degree of joint cooperation at the operational level of the war in the west was a function of the army and navy commanders' personalities. Generals John C. Fremont, Henry W. Halleck, and Ulysses S. Grant, were significant in the initial development of army and navy joint operational doctrine in the Western Theater of operations. The senior navy leaders in this joint doctrine development were Captains John Rodgers, Andrew H. Foote, and David D. Porter. Whether army or navy, each officer had a unique conception of joint cooperation. Additionally, the operational planning environment was such that each service's officers could freely provide operational level input to a joint plan. The army commander's council-of-war, frequently used during the civil war for planning and operations, was a forum where the naval commander could provide advice to the army operational commander.

However, the army played a predominant role in joint operational level decision-making. Initially, this was primarily due to the command arrangement where the navy was subordinate to the army for operations.² This was also the case for most logistics support, although the navy tried to provide officers and men for their own vessels. Early on, the

western navy lacked substantive combat power, in terms of vessels and mortar schooners, to influence operational decisions. This lack of substantive combat power somewhat limited the value, or reliance, that the army operational commander placed on naval advice. This is not to imply that the army operational level commander did not seek naval advice when it involved riverine operations, because the army commander almost always did. But the degree of naval involvement usually depended on the forcefulness of the naval component commander's personality, and his conception of what interservice operations should consist of.

The Western Department commander in these early joint days was Major General John C. Fremont. He was the famous "Pathfinder," onetime presidential candidate, and political conversationalist.³ These descriptions were indicative of the way he ran his military department. Politically he was very astute, but he left the fine points of military operations to his subordinates, at times even including his wife. Consequently, the first naval component commander, Commodore John Rodgers II, rarely saw the department commander. This situation was at odds with the guidance issued by the Secretary of the Navy to Rodgers who assumed command in May 1861.

This interior nonintercourse [blockade of the Mississippi and Ohio Rivers] is under the direction and regulation of the Army, and your movements will therefore be governed in a great degree by General McClellan, . . . with whom you will put yourself in immediate communication. He will give such orders and requisitions as the case to him shall seem necessary, you acting in conjunction with and subordinate to him.⁴

The naval component commander was in the unenviable position of administratively creating something out of nothing. Moreover, Rodgers had to figure out operationally how his naval force would interact with the army. These were monumental tasks in and of themselves, added to this, any guidance from Fremont, who replaced General George B. McClellan, would be minuscule.

Secretary Welles must have had confidence in Rodgers' ability. Welles not only gave Rodgers' responsibility for contracting for boats, boat building, and obtaining facilities, but also reviewing naval inventions.⁵ Not everyone enjoyed such confidence. One prominent citizen wrote to the Secretary of War, and stated his concerns about an ocean-going naval captain directing affairs on the rivers. "Besides, it is giving to the Navy a jurisdiction that I think clearly belongs to the Army, and I am proud to be able to add that the public have much the greater confidence in the latter." This opinion did have some credence, but was naive in retrospect. This statement evolved from the original plans of McClellan who desired to recruit 600 men familiar with the rivers to man a steamboat fleet. It was a preliminary plan that certainly was not viable considering some of the inherent problems in a plan of this nature. First, the army had its own leadership, recruiting, and training problems for a land force. The army's administrative structure did not have the capabilities to take on the added responsibilities of a water-borne element. Second, naval officers already had the military expertise and knowledge to effectively deal with the army in joint land and water operation. Moreover, almost all of the naval officers were Naval Academy graduates, well-grounded in engineering and sciences. They had the expertise to acquire or supervise the building of the right vessel for the job that the army required of it. Besides, a professional navy officer could communicate more effectively with a senior army officer, normally a "West Pointer," than could the local leader of an ad hoc riverine force.

The naval commander's first task was to acquire armed vessels for his flotilla. Rodgers' aggressive endeavors to equip his new naval force for support of the army elicited a mild rebuke from Secretary Welles. This rebuke resulted when Rodgers reported that he had bought three steamboats for use on the rivers, the *A. O. Tyler*, the *Lexington*, and the *Conestoga*.⁶ Welles, in a correspondence to Rodgers, reiterated that the army must make requisitions for the vessels through the War Department.

Furthermore, Welles wanted to insure that the naval commander did not take any independent action on operational or administrative matters by stating that, "Nor must the two branches of service become complicated and embarrassed by separate action or any attempt at a combined movement on the rivers of the interior."⁷ The Navy Secretary saw the need for the initial development and operations of the naval force to be subservient to the army operational commander. This command structure would eventually change as the navy gained more vessels and experience. It was the first case in the U.S. military of one service, the army, providing the base of operations for another service, the navy, to grow into a mature fighting element.

Under Rodgers the fresh-water fleet took shape. He saw the necessity of having vessels that could operate in close support of the army. This meant not only providing cannon fire from boat to shore; but, also vessels able to survive enemy musket and cannon fire from the shore. He urged Fremont, the War Department, and the Navy Bureau to contract for ironclads to fulfill these mission requirements. Because of his recommendations the War Department made a contract with James B. Eads, of St. Louis, for the construction of seven ironclad steamers.⁸ Ultimately, late in 1861 and early in 1862, the *Cairo*, *Carondelet*, *Cincinnati*, *Louisville*, *Mound City*, *Pittsburg*, and *St. Louis* joined the flotilla for support of army operations. Two other converted snag-boats, twice the size of the Eads vessels were also in the fleet. These formidable vessels were the *Benton* and *Essex*. The *Benton* was an example of a boat that could readily augment the firepower of the army from the water. It carried two 9-inch guns, seven rifled 42-pounders, and seven 32-pounders, a total of sixteen guns.⁹ This was almost the equivalent of three army batteries in number of guns, and greatly exceeded the weight of metal. Additionally, the Western Flotilla as first organized had thirty-eight mortar boats. The mortar boats were rafts or blocks of solid timber carrying one 13-inch mortar each.¹⁰ It was apparent that Rodgers obtained and contracted vessels for the operational army

commander that were maneuverable, survivable, and had sufficient firepower for any mission they received.

Joint Operational Options and the Threat

Fremont's department contained four water avenues-of-approach, the Mississippi, Ohio, Tennessee, and Cumberland Rivers. As the operational commander, these rivers gave Fremont a number of options for conducting operations against the enemy. Fremont also knew that Rodgers had already marshaled some of the vessels that would make these joint options possible. Each joint option might eventually lead to the control of the Mississippi River as General Winfield Scott's strategy proposed.

The first joint operational option was a concentrated joint attack deep into the Confederate homeland. The Mississippi would provide a joint attack route all the way to New Orleans on the Gulf coast. Similarly, on the Tennessee a joint attack could go all the way to Muscle Shoals, Alabama. Finally, a joint attack along the Cumberland would lead to the Confederate capital of Nashville. The risks involved in joint attacks of this nature were that they could lead into the teeth of the Confederate river strongpoint defenses, and might at the same time leave the Union flanks vulnerable. On the other hand, they just might achieve a decisive coup de main.

The second option was to separate the Confederate armies, and then defeat each in detail. A limited joint economy-of-force operation would fix the Confederates in place on one river. Simultaneously, a joint attack would attempt to breach the Confederate river defenses on a parallel river. If successful, this joint attack could isolate an enemy unit from reinforcements, and make it easier to defeat. The risk for this type of joint attack was that the Union forces would not mass their vessels or soldiers, and they themselves would be vulnerable to defeat in detail. Conversely, a joint operational penetration of this nature could lead to a significant destabilization of the Confederate defensive line.

The final option was the most conservative approach. It would involve Fremont developing the situation by limited joint raids to disrupt enemy concentrations, lines-of-communications, or shows-of-force to civilians on the rivers. They were joint raids that could use a tailored force for the size threat or mission required. Furthermore, the employment of this option could be a branch or sequel to the previous two options. In this option, and to a certain degree in each of the other options, the navy would play an integral part in the operational commander's plan.

The navy provided the operational army commander the mobility to execute a number of missions that his soldiers would otherwise find difficult to perform. These were missions that soldiers would find hard to undertake because of the heavy vegetation, and marshy undulating terrain along the rivers. For the operational commander the navy could provide a rapid reconnaissance capability for determining enemy intentions, or defensive preparations. Another combat multiplier was the firepower the navy provided, which could supplement the army's fires in a joint attack or reconnaissance. Additionally the operational commander could use the navy as a psychological weapon. This was due to the effect that huge gunboats carrying troops could have on the populace of the Confederate heartland. The navy could also provide security for troop transports, and protect the army's water lines-of-communications with their gunboats.

Naval gunboat combat support for army operations was important, but certainly of equal, if not greater importance was the logistical resupply capability that the navy afforded the army. The average Union army corps could have a logistical resupply tail of 500-1000 wagons, even operating quite close to its landing site or railhead.¹¹ In comparison, three steamboats could move all the ammunition, rations, and other logistical essentials that Fremont would need in his corps operations. A smaller resupply element freed up front-line soldiers that before had to guard a long rear-echelon wagon column. Besides, a long rear-echelon wagon column was the bane of every Union commander in the

Western theater of operations. By relying on naval steamboats and gunboats the operational army commander could eliminate a lucrative target for the Confederate cavalry. Also, contrary to what some accounts say about the vulnerability of boats to Confederate sharpshooters; overall, boats were far more secure than a slow ponderous supply wagon train.

The naval and army depot maintained by Fremont and Rodgers in Cairo, at the confluence of the Ohio and Mississippi Rivers, was an ideal location. Resupply for the Western Commander's stockpiles could come from St. Louis or Louisville. The rivers made it easier and quicker to move down important supplies from these two large Union bases.¹² At Cairo a naval officer, Captain Pennock, received army supplies from St. Louis, Missouri, and Louisville, Kentucky and dispatched them to army forces.¹³ General Fremont, even though not thoroughly involved with the logistics of his command wanted to make sure his naval component received supplies. Lieutenant Sanford, ordnance officer of the flotilla had a letter that gave him access to army stores at both St. Louis and Cairo. It stated that General Fremont had given him written authority to call on officers at St. Louis and at Cairo for such things as Sanford deemed necessary.¹⁴ Another important factor in this central location for joint supplies was that the colocation of army and navy stocks made it easier for the logisticians to jointly prioritize requests to better meet the needs of the operational situation. For example, a joint main attack occurring on the Cumberland river would receive a higher logistics priority rating than a joint economy-of-force mission occurring on the Mississippi simultaneously. In theory, this was a good way to avoid duplication of effort between services, and would avoid misuse of steamboat resources for unimportant resupply efforts.

Both Fremont and Davis realized from a morale standpoint the naval steamboats and war vessels could provide important personnel services. One of the big problems in the Western theater of operations (also in the east) was the treatment and evacuation of

the wounded from the battlefield. The hospital steamboat would become a central location for the treatment of the wounded. Other steamboats could sail the more critically wounded back to better facilities in Cairo more quickly than the conventional wagon ambulance approach. Therefore, wounded personnel had a higher likelihood of survival than on the land-locked battlefield. Additionally, if the weather was too severe for land operations the troops could use steamboats to keep warm and dry until active operations on the land commenced.

Opposing the Union Western Commander was a Confederate defensive line anchored at Belmont, Missouri stretching through Bowling Green, Kentucky into eastern Tennessee.¹⁵ This defensive line marked the farthest reaches of the majority of the Confederate force, and was on very defensible terrain. The three most vulnerable parts of this line were the places where north-south rivers flowed through the Confederate positions. Accordingly, the Southerners increased troop concentrations and built forts on the Mississippi, Tennessee, and Cumberland Rivers to deny these high-speed avenues-of-approach to the Northerners.

The Confederates had limited manpower to cover this extensive defensive line. This also included any type of naval force to defend the inland waters. Contrary to Federal estimates, the South did not have a formidable river navy. It was not until August 24, 1861 that Confederate President Jefferson Davis went before the Confederate Congress to ask for appropriations to build ironclads to defend the Mississippi. The congress allocated \$160,000 for financing two ironclads, with an additional \$50,000 earmarked for construction of gunboats to defend the Cumberland and Tennessee Rivers. Construction of the ironclads did not start until October at Memphis, with an optimistic completion date of December 21, 1861.¹⁶ Lieutenant Issac N. Brown went to Nashville to purchase and arm steamers for river defense. He bought three for conversion to vessels of war, the *James Wood*, the *James Johnson*, and the *Dunbar*.¹⁷ Brown received

authorization to purchase and convert two more to armed vessels, one ironclad, and one gunboat. Specifically, this meant that by December 1861 the South could add three ironclads and four gunboats to their makeshift river defense fleet. The Federal navy had grossly overestimated the size and capability of this Confederate fleet.

Joint Operations on the Mississippi

Rodgers had done a good job of developing the flotilla, but a more aggressive commander was about to come on the scene. Captain Andrew H. Foote, U.S.N. assumed command of the fleet on September 6, 1861, succeeding Rodgers.¹⁸ Foote was a pugnacious and determined naval commander who would have to work with the army operational commander in this development period of conducting joint operations along the rivers. Fremont wrote to Foote early in his assumption of command of the naval forces:

In consequences of the duties which press upon my attention, I am necessarily forced to trust much to your discretion. You will, therefore, in the duty confided to you, use your own judgment in carrying out the ends of Government. Spare no effort to accomplish the object in view with the least possible delay.¹⁹

Once again, since Fremont left most of the joint operational planning and execution to his subordinates, one army officer in particular would develop a close relationship with Foote and his subordinate naval commanders. This army officer was General Ulysses S. Grant who commanded at Cairo. Grant was the one who would receive guidance from Fremont for a joint operation near or on the rivers, and then would have to coordinate with, and integrate the navy.

Foote quickly realized that a number of factors hindered the efficient operation of his naval command. The soldiers equated his naval rank to that of a Lieutenant Colonel, which really did not give him credit for the amount of responsibilities and authority he maintained. Foote could not use his rank to obtain things for his naval force because in

many cases he would deal with an army Lieutenant Colonel, supposedly holding equal authority. Foote stated his case, "We suffer a great deal for my want of rank. The army say I rank only with a Lieutenant Colonel, and in one instance a Colonel ordered a gunboat to go with his regiment on a certain duty. General Fremont never intended this. I want, for the efficiency of the fleet, the appointment of flag officer."²⁰ Foote also began to understand that with the *laisse faire* attitude the army took with the navy maybe the navy should be a separate and equal command instead of subordinate to the army. Although these suggestions would not bear fruit during his watch, they would eventually for his successor.

A number of Confederate threats forced Fremont to execute his most conservative operational option. This option was to counter enemy concentrations, cut lines-of-communications, and conduct raids. Furthermore, the administration in Washington wanted Fremont to mollify the politically neutral and militarily sensitive state of Kentucky by conducting active operations.²¹ He had Confederate General Sterling Price to deal with in southwest Missouri, but even more significant was a Confederate concentration at Columbus, Kentucky. Columbus situated on the high bluffs along the Mississippi River, gave the enemy an optimal defensive position.²² Added to this defensive land garrison was a number of boats, which fueled the Federals' fear of a large Confederate navy. Fremont ordered Grant to do something quickly. Reacting, Grant surveyed his operational resources and decided that the navy would provide the best means to develop the situation.

This naval force gave Grant the capability to probe and obtain detailed intelligence about the enemy position. Commander Henry Walke, in command of the naval ships conducting the mission, recounts the expedition ordered by Grant: "Agreeable to your orders of this morning, I proceeded down the river with the U.S. gunboat *Tyler*, and the *Lexington*, under Commander Stemple, for the purpose of reconnoitering the position of

the enemy, so far as practicable. Proceeding till we came in sight of their batteries, about two miles above Columbus, we opened on them, and succeeded in drawing the fire of their batteries, some of which proved to be mounted with rifled cannon. Not feeling ourselves strong enough to contend with their rifled cannon, we rounded to, and returned to Cairo."²³

This was an interesting description of the mission, because it demonstrates what valuable operational intelligence the navy could provide the army commander. The mission dispelled the rumors of a Confederate naval threat, at least on this section of the Mississippi River. There possibly might have been a Confederate naval threat that could significantly oppose any steamboat transport of troops to landing sites above or below Columbus. Grant and Fremont could safely assume that they could operate on the river virtually unopposed to the objective areas if they decided to attack. Moreover, Walke's naval force gave some indications of the strength of the Confederate's position. The intelligence even included the quality of the enemy's cannons, rifled or smoothbores.

With this intelligence Grant came up with a plan that he explained to Fremont. "I am of the opinion that if a demonstration was made from Paducah towards Union City supported by two columns on the Kentucky side from here, the gunboats, and a force moving upon Belmont, the enemy would be forced to leave Columbus, leaving behind their heavy ordnance."²⁴ Fremont also receiving the naval intelligence from Walke had already devised a similar joint plan that he forwarded to President Lincoln for review and approval. Consequently, Grant received approval for his joint plan, but Fremont delayed action until he received approval from McClellan and Lincoln. In the interim Fremont directed Grant to keep pressure on the enemy at Columbus by using the navy as a harassment and interdiction force. This harassment would consist of naval gunfire and a show of force, which would hopefully erode the enemy's will to resist. Also, the Federal

navy would prevent the Confederates from reinforcing their units in Missouri by crossing the river at Columbus into Belmont.

Finally, the orders came from Fremont for Grant to execute the demonstration. Grant loaded two brigades on steamboats. This was a total of 3,114 men of all arms on the vessels.²⁵ Grant's plan was to head down the river for nine miles where the Union forces would land on the Kentucky shore. This joint convoy on the river with steamboats and gunboats, and the subsequent landing would hopefully lead the Confederates to believe an attack was imminent. To control this joint maneuver Grant boarded the *Memphis Belle*, which would be his command and control headquarters during the operation.

This plan was soon to change, because at two o'clock on the morning of 7th November Grant received an intelligence report via a messenger dispatched on a steamboat. One of his subordinate commanders had learned that the Confederates were in the process of ferrying troops across the river from Columbus to Belmont. These troops were to reinforce Confederate General Sterling Price's troops against a force that Fremont had sent against him. The navy gave Grant the agility to react against these units and at the same time accomplish the operational commander's intent. He decided to land on the Missouri side of the river above Belmont, and attack to destroy the reinforcing units landing there. It was a change in mission that would have been infeasible unless he had the rapid mobility and security afforded by the naval vessels.

On board the *Memphis Belle* Grant issued new instructions. He ordered the gunboats to advance, followed by the steamboats loaded with the troops of the first and second brigades. The entire force was to debark at the lowest point on the Missouri shore, out of range of the Columbus batteries. Captain Walke commanding the naval force would have a critical role in this joint operation (Captain Foote was in St. Louis at this time). First, Grant wanted him to designate the landing site that would safely get the

army units ashore. Second, Grant felt confident that Walke and his naval force would cover a retreat if the army was not successful in their attack. Whatever, out of confidence or necessity, Grant's attitude toward his naval component was a sure indicator of the importance of the navy in a joint operational plan.

The two gunboats led the joint convoy. Commander Walke summarizes the initial moves of the force in his report to Captain Foote.

We proceeded down the river to the extreme end of Lucas Bend, and beyond the range (as I thought) of their guns on Iron Bank. After the troops had disembarked and were under marching orders ..., our two boats proceeded to engage the batteries on Iron banks expending several rounds of shell, and returned to the transports.²⁶

This operation was certainly the first joint landing operation in which the navy provided suppressive fire from gunboats. Later in the morning when the army brigades began to engage the enemy, the gunboats returned to engage the batteries at Iron Banks. They fired at a distance of a quarter of a mile closer than before, with good effect. One of the enemy's 24-pounders struck Walke's vessel on the starboard bulwarks, thus killing one crew member, and injuring two others. This round did not disable the gunboat, and the two vessels then withdrew out of range of the enemy's batteries. It was an engagement that showed the vulnerability of wooden gunboats to shore fire; but more importantly, it illustrated throughout the Western Command the tenacity of the navy in joint operations. This was a perception among the soldiers that would persist throughout the joint operations that would result in the capture of Vicksburg.

At Belmont Grant's regiments met and drove the Confederates for a distance of two miles back to their encampment, and into their transports at the river shore.²⁷ However, the Confederate batteries at Columbus made it difficult for the Union infantry to remain on the field. Grant gave orders to head back to the steamboats. He desired to extract his force using his naval transports. All except one regiment embarked on the steamboats. While waiting for this errant regiment the Confederates had time to rally and

receive reinforcements from Columbus. They brought heavy and effective fire on the Union steamboats and gunboats on the water. The soldiers on the steamboats returned fire, but the deciding factor was the grape and canister rounds fired by the gunboats. Grant stated in his official report, "The fire was returned by our men from the decks of the steamers, and also by the gunboats with terrible effect, compelling him [the enemy] to retire in the direction of Belmont."²⁸ It was a lesson in massing joint firepower that would not be lost on Grant for future operations.

On the other hand there were some problems in the coordination of this joint firepower. The reason why the errant regiment did not link up was because they had to move further downstream to avoid the fire of the gunboats. But as the steamboats returned Grant's soldiers back to Cairo the two gunboats went on a search and rescue mission to recover the lost regiment. In coordination with General John A. McClelland, on the steamboat *Chancellor*, Commanders Walke and Stemple set out with their gunboats to recover the regiment. They linked up with the regiment on the river bank. The regiment also had 40 prisoners with them. After loading on the gunboats the regiment after loading on the gunboats encountered no enemy resistance and proceeded to rejoin Grant at Island No. 1, an island in the Mississippi, just below Cairo.

Commander Walke noted Belmont as the first serious test of the naval component in the support of the army's joint plan. It also showed how dependent Grant was on this important naval asset as a combat multiplier. Grant built his plans on the mobility afforded his army force by the steamboats, and on gunboat security. The fire support provided by the gunboats was also an integral part of his joint operations. In fact, the success of Grant's plan hinged on the gunboats providing fire support if his force got pushed back, as indicated in the first order for the joint operation. Successfully doing this, the navy instilled confidence in the soldiers that the navy would come through in the clutch. Foote was absent, but Belmont identified some concerns for future command and control

techniques between army and navy forces. Lastly, doubts about the capabilities of a limited number of woodclads in support of army operations was partially laid to rest. This first truly joint operation established the pattern for the heavy dependence the operational commander would place on his naval force for future operations.

New Command Team and Operations on the Tennessee and Cumberland

Maj. General Henry W. Halleck replaced Fremont in command of the Department of Missouri by late 1861. Logistically, Halleck had a number of problems to overcome as he assumed his new command. His units lacked sufficient transportation, ambulances, and the equipment to make war. Seeing the navy as a way to alleviate some of these problems for the army, he pursued increasing efforts to beef up his naval forces. Foremost in Halleck's mind was the lack of progress being made by Mr. James B. Eads on the seven "Mound City" ironclads. It was a vessel contract initiated early in the war effort by Captain Rodgers, U.S.N. The whole project was behind schedule, and was not likely to meet a delivery date earlier than the end of 1861. The problems in constructing these boats were immense.²⁹ Timber came a great distance from the northern forests. Iron, and the machines to work the iron and wood, were at a premium. Mr. Eads employed 4000 people in the construction of these boats. Moreover, he had developed monetary and contractual problems with the government for payrolls and covering the cost of equipment. The boats, if these problems were overcome, would be awesome. "They would be squat, ugly, powerful warships, 175 feet long with a beam of 51 1/2 feet, drawing 6 feet of water, pierced for three bow guns, four on each broadside and two at the stern, armored with 2 1/2 inches of iron forward, and given some armor along the sides to protect boilers and machinery."³⁰ Most naval officers had never seen vessels of this description, or design before, and they quickly gave them the nickname: "the Turtles." Halleck saw these veritable water arsenals as a great operational resource that could

project Union military power anywhere on the rivers. They would increase the chance of survival for both the vessels' crews and his soldiers. Administratively, when these ironclads did start to arrive the navy had problems in manning them, so Halleck had to provide some of his soldiers for this purpose.³¹ This was an interesting use of one service's manpower to maximize the combat potential of another service.

Halleck had three reasons to justify his concern for the timely delivery of the ironclads. First, he received intelligence from the Federal navy that the Confederates still ran contraband along the Mississippi and Ohio Rivers. Additional ironclads would provide a means to interdict this supply effort. Secondly, the Southern strongpoint at Columbus on the Mississippi had received reinforcements, thus becoming one of the strongest enemy positions in his area of operations. The ironclads would be an operational asset that he could use to interrupt these Confederate reinforcement efforts. Finally, General Leonidas Polk C.S.A. in command at Columbus had sent three small steamboats, that had been converted into gunboats, against Fort Holt below Cairo on the 1st of December. They did not inflict any damage, but they did raise once again the worries about the Confederate defense fleet.

The eastern boundary of Halleck's Department of Missouri was at the Cumberland River. Sharing this boundary on its eastern side was the Department of Ohio commanded by General Don C. Buell. Over the objections of the President and Commander-in-chief Buell wanted to attack Bowling Green. Worried about the reinforcements that could come from Columbus Buell desired Halleck's assistance. A diversionary joint attack along the rivers would fix the Confederates in place. Buell wrote to Halleck about a joint effort to accomplish this mission. "The [joint] attack upon the center of the [Confederate] center should be by two gunboat expeditions with, I should say, 20,000 men on the two rivers [Cumberland and Tennessee]."³² Halleck thought Buell's operation was doomed to failure, even with the assistance of Halleck's naval assets. Halleck, a Jominian enthusiast

wrote, "To operate on exterior lines against an enemy occupying a central position will fail, as it always has failed, in ninety-nine cases out of a hundred."³³

Reluctantly, Halleck gave Grant the mission of conducting a joint armed demonstration towards Mayfield, Kentucky. Additionally he stated to Grant, "If Commodore Foote can make a gunboat demonstration at the same time it will assist in carrying out the deception."³⁴ Using a joint attack, Halleck could exert pressure all along his line. Halleck's joint plan directed Grant to deceive the Confederates into thinking that Union forces were about to attack Camp Beauregard, below Columbus, or Fort Donelson, on the Cumberland River, just north of Dover on the Kentucky - Tennessee border. This joint demonstration would prevent any reinforcements from reaching Bowling Green via Columbus. Grant asked Foote, who commanded five gunboats by this time in late December, to send three gunboats up the Cumberland, and two up the Tennessee. Simultaneously, General C. F. Smith commanding at Paducah, would march to Mayfield covered to the west by Grant with the remainder of the forces from Cairo. The army and navy did not receive any serious opposition during this joint demonstration.

Upon their return from the demonstration, Grant, Smith, and Foote gained an appreciation of what impact a joint main effort on the Tennessee or Cumberland might have on the enemy. Foote and Smith also noted the weakness of Fort Henry on the Tennessee. If the Tennessee would be their line of operations it could break the operational center-of-gravity of the Confederate line, which was the forts at Henry and Donelson.

Shortly after this, Grant approached Halleck about an operational plan that represented the second option for Fremont when he was the Department commander. Grant's plan was to flank the Confederate strongpoint at Columbus using the Tennessee and Cumberland Rivers. Halleck had already seen the potential of this type of joint operation himself, with his naval component as a key part of the plan. However, Halleck

was initially reluctant to undertake the operation, because it violated the Jominian principles he followed. He wanted some assurance that even though this course of action violated the principles it had a reasonable chance of success. Some historians feel that Halleck did not give Grant a positive sign, because he first wanted Grant to reaffirm with his naval commander, Foote, the feasibility of such a plan. Anyway, early in January 1862 Halleck broached the subject to General George B. McClellan, the General-in-Chief. Halleck stated that a move directly down the Mississippi was not quite feasible at that time, but the joint maneuvers along the Tennessee and Cumberland were possible.³⁵ Following this, Halleck received a letter from Foote, a letter that Grant probably prompted the naval component commander to write to the Department Commander. In this letter Foote writes, "Commanding General Grant and myself are of the opinion that Fort Henry, on the Tennessee River, can be carried with four iron-clad gunboats and troops to permanently occupy. Have we your authority to move for that purpose when ready?"³⁶ This was evidence of the valuable input the naval component provided to the joint operational level plan. Clearly, given the enemy concentration in Columbus and the fact that less than ten miles separated the Tennessee and Cumberland, where Forts Henry and Donelson guarded them, this was the best course of action for the situation.

Immediate orders from Halleck followed, giving Grant the mission to conduct a joint attack and seize Fort Henry "at all costs." The order highlighted the importance that Halleck placed on the mobility the navy gave his subordinate's force. Halleck directed Grant to move his soldiers by steamboats protected by naval convoy, due to the condition of the roads and Grant's lack of transportation assets. A comparison of movement rates by foot and on water from Cairo to Fort Henry illustrate this point. Using the straight line distance between these two locations, almost 80 miles, marching would take approximately five days.³⁷ Conversely, the steamboats and gunboats only took one to two days to reach the fort via the Ohio and Cumberland Rivers.³⁸ Halleck and Grant could

save at least three days, if not more, by using the naval steamboats on the river routes. Likewise, there was very little wear and tear on the troops and animals using steamboats as transport. Unfortunately, there also was some lack of operational security because enemy scouts could easily detect the movement of the large river convoy; but this was a deficiency that Halleck and Grant accepted in return for the potential of a quick operation, and a fresh force at the beginning of the battle.

Halleck's plan also included using the steamboats to ferry supplies to his forward army elements, and some gunboats left to protect Cairo. It is instructive to note the multiple missions that the navy could perform for the operational commander. Halleck and Grant also envisioned that in actual combat operations the steamboats would provide a crossing from one side of the river to reinforce troops on the other side. As per Halleck's instructions Grant was to land troops below Fort Henry, and cut the road to Dover so the enemy could not be reinforced. Additionally, Halleck specified that Grant was to give Commodore Foote a copy of the letter with these instructions.³⁹ This final guidance indicates the great weight that Halleck placed in the capability and reliability of the naval force to transport and protect Grant's force, without face-to-face guidance from the operational commander.

The joint plan for the battle was relatively straight-forward. The attack would be a coordinated assault by the gunboats and ground troops converging on the fort from the rear and on both banks of the river. General Smith would move down the west bank to secure a place called Fort Heiman across the river from Fort Henry. Upon completion of this task his unit would ferry across to join in the assault on Fort Henry. Furthermore, the plan stated that Smith would provide one company of sharpshooters to Foote for use on the steamboats as protection from shore fire. Mutual support between services showed up throughout Halleck's plans.

By early January, all seven of the Eads ironclads had been brought down to Cairo, but only four were operational for the attack on Fort Henry. These four left Cairo on the 2nd of February under the command of Commodore Foote. These ironclads and gunboats constituted a huge amount of firepower for Halleck's operation; twelve rifled army 42-pounders, twenty-seven 32-pounders, four 12-pounder boat howitzers, three 11-inch guns, one 10-inch gun and 18 8-inch guns.⁴⁰ This was a total of 46 cannons of various calibers. It was a total that was significantly larger than the 24 cannons of the six and 12 pound varieties found in General John A. McClelland's divisional artillery assets in the attack against Fort Donelson.⁴¹ The vessels anchored nine miles below Fort Henry, awaiting the arrival of all the troops.

The ironclads gave Grant the capability to conduct a secure and quick reconnaissance before the troops arrived. He had heard there was a stream that connected with the Tennessee below the fort providing a good landing site out of enemy cannon range. Therefore, he boarded the ironclad gunboat *Essex*, and sailed beyond where the stream connected with the river in order to test the range of the batteries from the fort. The Confederates fired a volley which fell short; subsequently, a rifled battery fired and struck the deck near the stern and passed through the pantry and officer's quarters. The *Essex* reversed course and delivered Grant back to his headquarters. Grant decided to land the troops just below the mouth of the stream, instead of the location where the round struck the *Essex*. It was a commander's reconnaissance that would not have been possible without the navy, and helped avoid exposing the soldiers to needless danger as they disembarked.

The soldiers landed and started their approach march to the fort on 6 February. The gunboats had four miles to go upstream before they would be in position to assault the fort. On the other hand, the soldiers had about eight miles to go on rough muddy terrain to seal the rear of the fort. Consequently, the soldiers made slower progress.

Unfortunately, there had not been enough coordination between the army and navy on how to synchronize the attack as Grant and Foote had intended. Therefore, the gunboats initiated the attack with a severe bombardment of the fort. The gunboats' bombardment went on for a hour and fifteen minutes until the Confederates raised a white flag above the fort. After lowering the flag above the fort, the Confederate adjutant-general and a captain rowed alongside Foote's flagship. They reported that General Lloyd Tilghman, the commander of the fort, wished to present surrender terms. Foote's naval force ended up capturing Tilghman and his staff, 60 or 70 prisoners; a hospital ship containing 60 invalids; and the fort and all its effects. In the meantime, McClelland's soldiers heard the opening salvos from the gunboats, and attempted to increase the rate of their march to join in the attack. The terrible condition of the terrain prevented this. Thus when General Grant arrived at the gunboats Foote turned over the fort and all that the navy had captured.⁴²

Grant and Foote did not stop at the fort. Showing the capability the navy gave the operational commander to exploit the situation, a division of gunboats went further up the Tennessee. Their mission was to remove the rails on the railroad bridges across the river. This would prevent rail transportation for Confederate reinforcements, and would cut communications between Bowling Green and Columbus. Finally, the gunboats were to conduct pursuit operations from Fort Henry, and attempt to capture or harass the fleeing Confederates.

An assessment of the ironclads' performance revealed that their iron casement was effective in stopping the shot of the enemy. Further physical evidence was left by 31 shot marks on the *Cincinnati* (flag-ship); 15 shot marks on the *Essex*, (which put her out of action); 7 shot marks on the *St. Louis*; and 6 on the *Carondelet*. Total casualties were 2 sailors killed and 37 wounded.⁴³

For the soldiers, in McClelland's report of the operation, their only loss and injury was to animals, resulting from the deplorable conditions and the treacherous movement

along the roads. True to his political nature, McClelland was highly laudatory of Foote and his fleet. "The success of the Mississippi River Fleet in this signal instance triumphantly demonstrates the efficiency of that arm of public service. As a just tribute to distinguished merit I have the honor to announce the name of Fort Henry has been changed to Fort Foote, by an order formally published by me to that effect."⁴⁴ Halleck and Grant echoed this sentiment, although not in the same fashion. They knew that the fleet was primarily responsible for accomplishing most of the joint military objectives; specifically, the joint attack and seizure of the fort, and the destruction of the railroad bridges as specified in Halleck's order. More importantly, Halleck and Grant gained an appreciation for a joint operational asset that could close with and destroy the enemy, while withstanding punishment from the enemy's weapons.

The operational consequences of this first Union victory using joint army and navy forces had a debilitating effect on the Confederate command's morale. Even though Fort Henry was a wretched military position, according to General Albert S. Johnston (commander of the Confederate Western Department), the slight resistance offered there indicated that the best open earthworks could not withstand an attack by the Union ironclads. He even went so far as to say that Fort Donelson could be taken by ironclads alone, without the cooperation of land forces. Accordingly, Johnston planned to change the disposition of his forces in reaction to the threat of gunboats along the Cumberland River. He wrote to Judah Benjamin, the Confederate Secretary of War, that both Generals Beauregard and Hardee agreed with him about the necessity of withdrawing their forces from the present line at once.⁴⁵ These statements validated the worth of the Union naval participation in a joint operational plan. These results made it apparent and absolutely essential to include the naval component in joint operational planning and execution early and throughout the campaign. The stage was now set for the next phase

of Halleck's and Grant's joint river operations--the attack against Fort Donelson on the Cumberland River.

Grant had momentum now, and he confidently telegraphed Halleck, "I shall take and destroy Fort Donelson on the 8th and return to Fort Henry."⁴⁶ One factor which hindered Grant's joint plan from the start was the limited naval assets available. The only gunboat nearby was the *Carondelet*, left at Fort Henry on the Tennessee River as a guard ship. Foote, with three ironclads, had gone to Cairo for repairs, and the other three wooden gunboats were still on the pursuit operation ordered by Grant in observance of Halleck's instructions. Grant, realizing the critical importance of this operational asset, sent an urgent dispatch to Foote at Cairo: "Effect repairs as quickly as possible and return to join in the attack at Fort Donelson." Two figures that would be prominent in Grant's future operational and tactical joint navy operations would join him at this time. Halleck ordered General William T. Sherman, assigned at a training command in St. Louis, to assume command at Paducah under Grant, and Lt. Col. James McPherson was to be the engineer of the expedition against Donelson.

By the 12th of February, Grant started his movement along two roads, found by McPherson, from Fort Henry towards Fort Donelson. His joint plan was to mirror his previous joint actions against Fort Henry; the army divisions would encircle the fort to prevent escape, and to find good land battery positions, while the gunboats would pound the river batteries. Presumably, these attacks would once again lead to the surrender of the Confederates. It was a hastily developed joint plan that was not thoroughly thought out by either Grant or Halleck. The plan was faulty on three accounts. First, the *Carondelet*, as stated previously, was the only gunboat initially available for bombardment, until Foote's other ironclads or the vessels on the exploitation mission showed up. Second, there was not an adequate naval force to provide Grant with

intelligence about the fort; therefore, he did not find out that Fort Donelson had been reinforced. Finally, Fort Donelson was a stronger fort than Henry.

The bold and audacious commander will make an attack to maintain the momentum of offensive operations. Grant's joint attack against Donelson was obviously an attack that met that description. However, it was also obvious that the intelligence preparation of the battlefield was nonexistent. It seemed that Grant assumed that he could count on the supposed invincibility of his navy in securing the victory. In hindsight, it was glaringly apparent that his joint plan hinged on a broken and fragmented navy attacking a strong Confederate position. Neither Halleck nor Grant had not developed a way to fully measure the combat power status of their naval component. If they had obtained this information, as they did with the morning reports of their land divisions, they would have been more careful in committing the navy against a very strong position. Another lesson that Halleck and Grant learned from this joint operation was that even though Foote said the damaged vessels were repairable and would return as soon as possible, they did not have any way to speed up these maintenance operations. The joint operational commander must have a mechanism to monitor and interject a sense of urgency in bringing combat power of both services to the battlefield.

All these circumstances made Grant's first attempt to subdue the fort unsuccessful. While he extended his line around the fort, Grant told Walke on the *Carondelet* that he would take advantage of any bombardment provided by the gunboat. Unfortunately for Walke, when he started to lob 60- and 70-pound shot at extreme range, the fort replied with even heavier guns, and one massive shot penetrated the side of his vessel. The fort suffered no apparent damage from the *Carondelet's* efforts. Concurrently with this diversion, Grant sent infantry forward but with no better results. McClelland made an uncoordinated attack that achieved little and fell back. The weather then turned bad and Grant, with his subordinates, rested until the next day.

During the night Grant was to receive the welcome news that Foote had come up the river with the ironclads, *St. Louis*, *Louisville*, and *Pittsburg*. Also with Foote were the two wooden gunboats that had conducted the highly successful exploitation raid ordered by Halleck up the Tennessee River. This expedition had forced the Confederates to burn six loaded supply steamers; had captured two others, and also the half-complete Confederate gunboat *Eastport*.⁴⁷ Foote's arrival was welcome news to Grant because of the important part the bombardment would play in the actions for the following day.

Failure in the first limited joint attack did not dull Grant's optimistic outlook for the success of the second attempt. However, even with the importance he placed on the navy, he did not show equal concern for both services in his plan. He only feared the possibility of Johnston trying to reinforce the Confederate soldiers in the fort, and the difficulty Union soldiers would have in trying to prevent this because of the terrain. Although, Foote was very apprehensive about going into action so soon after arriving, with limited planning and preparation, he would do his part. His fresh-water sailors were busy shifting chains, lumber, bags of coal, and other materials to defend against plunging shot from the high fort.

Upon completion of the attack on Fort Donelson, Foote's orders from Halleck called for him to go up the Ohio to Clarksville, and destroy a railroad bridge that connected Bowling Green and Columbus. The operational commander was once again using the navy to isolate the enemy forces and defeat them in detail. So on top of preparing for the following day's battle, Foote tried to put a sense of urgency into mortar boat testing going on at Cairo because he wanted to use the mortar boats against the railroad bridge. The mortar boats never arrived and ultimately Foote had to make do with one of the wooden gunboats fulfilling this mission after the assault on Fort Donelson. This was another case where the army operational commander, if called upon, should have been

able to put pressure on the depot at Cairo to get the mortars boats for his naval commander.

Because of the difficulty in communication between the land and naval forces evident in the Fort Henry joint attack, Grant did not plan to have a truly simultaneous attack. Instead, he would use the gunboats to soften up Fort Donelson before his brigades assaulted. With this change in mission the plan of attack for the gunboats changed. Foote's gunboats, contrary to the previous plan to use their cannons at maximum range, moved to within 400 yards of the fort to begin the bombardment. Against the rapid current only the bow guns could be brought into action. A severe cannonade went on between the fort and the gunboats for a hour and a half, whereupon virtually all vessels received some damage.⁴⁸ Seeing the criticality of the situation Foote told Grant that he must withdraw his whole fleet for repairs. Moreover, Foote indicated he might not return and Grant should consider regular siege operations to subdue the fort. It was a conference and advice from the naval commander which shows that one service should be knowledgeable about the capabilities of the other, even if not directing the operation. Foote demonstrates this knowledge about the army when he offered the advice to Grant to consider siege operations. After further discussions, Foote agreed to take only the two worst damaged boats downstream, and the rest would remain to support the maneuver against the fort. Grant also compromised by indicating he would entrench part of his line and wait for reinforcements. Just as they concluded the conference one of Grant's staff officers rode up and reported that a portion of his line was under attack. The present situation was about to change drastically.

The Confederates still felt the demoralizing effects of the joint capture of Fort Henry, and even though Fort Donelson was a strong fort, Johnston along with his other generals perceived that Fort Donelson was a trap. They also had a psychological fear of the invincibility of the Union gunboats.⁴⁹ Therefore, when the gunboats went down in

defeat during the day the Confederates within the fort received a morale boost. They launched a concentrated effort against the right side of Grant's line as he was in conference with Foote. Grant hastily went to try to stabilize the situation. He rallied his men, and at the same time sent a note to the navy commander asking for assistance. Grant wanted Foote to send the remaining gunboats up the river to show the Confederates that the gunboats were not totally out of action, and could still attack. It was almost like the operational commanders in World War I using the tank as a psychological weapon. The tank might not penetrate very far into the enemy line; but the doubts the tank put in the enemy's mind about their capabilities to fight it eroded the enemy's will to resist. Grant's men, and the navy, were successful in blunting the penetration, and during the night the fort surrendered.

Halleck had to decide on a line of operations after the capitulation of Fort Donelson. He had to weigh the political as well as the military factors carefully. The navy would be instrumental in influencing the operational commander's decision concerning a line of operations. Halleck and Foote had sent Lieutenant William Gwin, U.S.N. on a deep reconnaissance as far as Eastport, Mississippi using the Tennessee River. Upon returning Gwin reported that "I am happy to state that I have met with increased Union sentiment in South Tennessee and North Alabama."⁵⁰ Additionally, he cited the striking distances for future military operations into the deep south. Halleck's chief-of-staff, General George W. Cullum, took Gwin's report and added an endorsement. "With the Tennessee River as a line of operations, Corinth, the junction of the Mobile with the Memphis Railroad, becomes an important objective point, which turns Columbia on the left and Memphis on the right."⁵¹ Halleck knew that the Mississippi River and an advance towards Vicksburg was still blocked by Confederate river strongpoints at Island Number 10, Fort Pillow and Memphis. Therefore, his best alternative as a line of operations was to maneuver down the Tennessee. As Halleck moved down the river he would achieve an

interior line position, he would have a relatively secure river supply route, and he would satisfy the politicians.

Foote provided two gunboats for the security of Halleck's troop steamboats as his force moved south. In conjunction with this, there were still major active joint operations occurring on the Cumberland River with General Buell. Moreover, Halleck directed Foote to cooperate with General John Pope's Army of the Mississippi in capturing island Number 10 on the Mississippi.⁵² Foote, in effect, had to report to three operational commanders; Halleck, Buell, and Pope. It was a command arrangement that Foote lamented about.

Halleck urged Washington to correct this by making him the overall Western Commander; thus, Halleck could better manage his naval resources. In actuality, if the Confederates had a credible riverine fleet they would have had an advantage over a dispersed Federal navy, which they could attack and defeat in detail. Foote's primary mission guidance came from Halleck, since his naval depot was in Halleck's department, and he followed Halleck orders. Even so, Foote tried to accommodate the other two army commanders on most occasions. Halleck's guidance now was for Foote to assist Pope in his attack on Island Number 10, and that is where he positioned his flag-ship.

The army and navy cooperation to capture Island Number 10 was not totally harmonious. Foote brought up the mortars and some of his gunboats to bombard the fort in support of Pope. Foote wanted to try every means available to reduce the fort by firepower before he risked his boats in running past the Confederate fortifications on the island. He even had a balloonist sent up to determine the progress of the mortar attack; a positive report that indicated that the mortars had done great damage to the fortification.⁵³ Unfortunately all these efforts by the naval commander were too slow for the impetuous Pope. He wanted results and he wanted them quickly. He sent a telegram to Halleck complaining about Foote. "As Commodore Foote is unable to reduce and unwilling to run

his gunboats past it, I would ask, as they belong to the United States, that he be directed to remove his crews from two of them and turn over the boats to me."⁵⁴ Halleck in turn sent a telegram to Foote requesting that he give as much assistance to the joint operation as possible.⁵⁵

Foote acquiesced and gave orders for Walke on the *Carondelet* to run past the island. Demonstrating the perceived danger of the mission, Foote also issued a post script to his instructions detailing how Walke should destroy his vessel if disaster should occur. There was no need for these destruction techniques because Walke successfully made it past the island's batteries. Walke linked up with Pope's forces on the Missouri side of the river and protected them as they crossed. Thus the island had Union forces on four sides and eventually surrendered.

Pope's methods of dealing with the navy in this joint endeavor were in stark contrast to Grant's. Pope did not want to fully listen to the naval advice, whereas Grant would take the navy input and carefully weigh it. Pope went to his superiors immediately when things did not go his way in a joint effort, or if the navy said things he did not like. Grant on the other hand would try to work out his concerns with the naval commander. It also could be that Grant had built a habitual relationship with Foote and the navy and knew their capabilities. Conversely, Pope had the navy hastily attached to him to accomplish a critical joint mission, and he did not have time to feel out his naval element. Therefore, his leadership methods might not have been amicable as they would be in other circumstances. Regardless, it points out the importance that personalities and leadership styles can play in joint operations.

In the summer of 1862 Captain Charles H. Davis assumed command of the Mississippi squadron, replacing Foote. He ended up completely clearing the Mississippi from Ft. Pillow through Memphis to within the battery positions of Vicksburg. Rear-

Admiral David Farragut was in a position south of Vicksburg ready to link up with whatever army or navy force designated.

Halleck also became the new General-in-Chief about this time in June, 1862. Thus, Grant's responsibilities expanded accordingly to include everything between the Tennessee and Mississippi rivers all the way up to and including his old base of Cairo. Grant also commanded Pope's old force, now Rosecrans'. Grant wanted to avoid continuing to hold railroads and combating cavalry raids in the vicinity of Corinth. He suggested to Halleck the joint plan that would unite Union army and navy forces towards a significant strategic objective--Vicksburg. It was the objective that the navy was now closing in on. "With small re-inforcements at Memphis I think I would be able to move down the Mississippi Central road and cause the evacuation of Vicksburg and to be able to capture or destroy all the boats in the Yazoo river."⁵⁶ Unknown to Grant at the time it would take the successor to Davis, Captain David D. Porter U.S.N., and extensive joint tactical operations to capture Vicksburg.

In sum, at the operational level, joint operations developed to the degree that the army or navy commander wanted them to. The operational army commander usually planned the joint operation with input from the navy. Navy officers, with minimum guidance, put together a fleet that was responsive and effective in support of the army. The more aggressive the army or navy officer the more they could influence joint planning, or what assets were necessary to support the other service. The army operational commander could use his naval forces for a multitude of missions. These included deep reconnaissance, combat, security, and psychological operations. The navy also afforded speed and mobility to the army commander, which was far greater than a purely land force. This was the case not only in combat operations, but in combat service support operations as well. The naval steamboats reduced the long wagon trains that were a security problem throughout the Western theater. Overall, at the joint operational level all

the tenets of the modern airland battle, agility, initiative, depth and synchronization were easier to accomplish with the use of a joint force.

Joint operations at the operational level of war set the pattern for the tactical joint operations doctrine that Grant, Porter, and Sherman would develop on the Mississippi. These embryonic tactical joint operations would culminate in the capture of Vicksburg and a secure Mississippi for the Union.

CHAPTER 3

JOINT TACTICAL BATTLES ON THE BAYOUS

I feel assured Admiral Porter will admit we rendered him and his fleet good service as without our presence it would have cost him many valuable lives to have extricated his boats, while the banks of Deer Creek were lined by the enemy's sharpshooters, against whom his heavy ordnance could not be brought to bear.¹

Major-General William T. Sherman, Commanding Fifteenth Corps, to Colonel John A. Rawlins, Assistant Adjutant General, Department of the Tennessee

Description of the Area of Operations

East of the Mississippi River from Memphis to Vicksburg is a vast alluvial flood plain. It encompasses a region called The Delta, bounded on the east by the Mississippi, and on the west by the Yazoo, Tallahatchie, and Coldwater Rivers. The Chickasaw Bluffs circumscribe this area. They begin near Memphis then run generally southeasterly and end just north of Vicksburg along the Mississippi. In 1852 The Delta was a virtual swamp. Water covered large tracts of the region, because of the low land and a high water level, especially during the late winter and early spring rainy seasons.

It was a region scarcely populated; the largest concentrations of people being in large farms or plantations along the rivers. At this early point in the war, the main crop cultivated by these inhabitants was cotton. An east-to-west road network for heavy wagon traffic was nonexistent, except for small cart paths or foot trails. Four roads at the most, paralleling the rivers, and able to support heavy wagon traffic, constituted the widely dispersed north-south network. In addition to the rivers, many streams crisscrossed the area. These streams by frequent changes of course in the soft alluvial soil

created many stagnant lakes when they cut back on themselves. Where absent of cultivation, canebrakes, small oaks, and other dense vegetation covered the terrain. As the historian, Edwin Cole Bearss writes, successful tactical operations in this type of topography "hinged upon the effectiveness of joint army-navy operations."²

Three of the five attempts Grant made to turn Vicksburg's right flank or skirt the Vicksburg batteries exemplify this interservice cooperation. In these three operations, the execution of five of the present-day battlefield operating systems required some degree of joint cooperation between the army and navy. The five were: command and control (C2), maneuver (MANV), fire support (FS), intelligence preparation of the battlefield (IPB), mobility-counter mobility-survivability (MCS), and combat service support (CSS). As opposed to the mile-and-a-half wide Mississippi, many of the bayous offered clearance for only one gunboat or ironclad at 60 foot beam; therefore, joint coordination of these operating systems between the army and navy was critical. In the defense, Confederate land forces had good cover and concealment along the banks of the waterways. They were not only effective engaging Union troops, but Union naval vessels as well. Tactically, the battle of Chickasaw Bayou, or First Vicksburg, was really the first decisive test of the army and navy operating, as termed by many 1862 official accounts, "in concert."

Chickasaw Bayou or First Vicksburg Expedition

Joint C2 for the Chickasaw Bayou battle was precarious from the beginning. On November 12, 1862, thirty-eight days before the proposed start of the operation, Rear-Admiral David D. Porter was still not sure who on the army side would be in charge. Consequently, all the initial planning he did resulted from a warning order from the Navy Bureau. His aggressive nature showed when he wrote to Sherman, "I wish to cooperate with the army in every way I can be of service."³ Porter was still under the impression

that General John A. McClelland would command. Unknown to Porter, Grant's hasty plan developed because of an aversion to political generals and hopes for tactical surprise; thus, he put Sherman in command of the expedition. Adding to the confusion, Porter received overwhelming numbers of requests from different army generals for gunboat assistance. Porter lamented, "There are so many generals acting independently of each other that the whole American Navy could not comply with their demands."⁴ In an attempt to alleviate this strain on his resources he issued instructions to Captains Henry H. Walke and Thomas O. Selfridge at Helena Arkansas to channel all army requests through him for approval.⁵ As of October 1862 the navy was no longer under control of the army for operations. This lack of unity of command, started to show signs of strain at the very start of the movement down the Yazoo River against the bluffs.

Another unusual aspect in planning and preparation for the upcoming operation was that Sherman had not met Porter as of November 12. This was unusual, because commanders normally would like to know the idiosyncrasies of friendly commanders, whether it be army or navy, to their right or left. True of any warfare, but especially true for Civil War battles, the abilities of subordinate or adjacent commanders would determine the success or failure of an operation. This was particularly true along the Yazoo where the type of topography would dictate independent and isolated operations by army and navy elements. Present day mission type orders would be essential, since operations would be so decentralized. For planning purposes the naval component would be equivalent to an army division. Therefore Sherman had to make a quick assessment of the naval component commander. Similarly, Porter would have to do the same of Sherman. They scheduled a meeting in Memphis for 20 November to discuss joint plans.

This meeting was important considering the wording of Halleck's and Grant's correspondence about the naval component commander. In them they used terms such as, "hopefully," "could," "or please ask Porter to cooperate," when telling Sherman to seek

naval assistance.⁶ Besides just being the polite language of the era, and discounting Porter's aggressive nature; there was a real chance of him turning down the army's request. Fortunately for the soldiers and sailors that would be going on the expedition, Sherman and Porter seemed to like each other from the start.⁷ They both agreed on the necessity for joint cooperation and the need for a general joint plan to guide their actions. Sherman's instructions to his division commander's reflect this attitude.

Complete military success can only be accomplished by united action on some *general [joint] plan* . . . General Grant , with the Thirteenth Army Corps, of which we compose the right wing, is moving southward. The naval squadron (Admiral Porter) is operating with his gunboat fleet by water, each in perfect harmony with the other.⁸

Shortly after the conclusion of the meeting Porter took steps to support the joint plan. He dispatched Captain Walke commanding the ironclads *Cairo*, *Baron DeKalb*, and *Pittsburg*, and the tinclads, *Signal* and *Marmora* on a threefold mission.⁹ First Walke was to provide intelligence for Sherman on enemy activity and the topography as far up the Yazoo as possible. Secondly, he was to clear the Yazoo River of "torpedoes" (water mines in modern military parlance) so the army troop transports would not be blown up. Finally, Walke was to have his vessels positioned to cover the army's landing operations.¹⁰ His naval force had responsibilities similar to a land mechanized divisional reconnaissance team of today.

By December the 1st, 1862, the first part of the mission was successful as Walke relayed enemy information back to Porter and Sherman. He reported Confederate guerrilla forces shooting at him from the banks, and suppressing them with artillery fire. His force made it twenty-three miles up the Yazoo where it encountered an enemy fort on the bluffs of Walnut Hills. Walke went on to describe the positioning of the cannons in the vicinity of the fort. Further, he felt that to capture it would require a land force, particularly while the river was low.¹¹ The second part of the mission did not go quite as

well as the first. In an effort to perform the torpedo clearing operation thoroughly and quickly, before the arrival of the army transports, the *Cairo* was sunk by a mine. Porter sent a telegram to the Secretary of the Navy reporting the progress thus far. After describing the sinking he went on optimistically, "... and we are now in command of the landing for the disembarkation of the army destined to march into the city."¹²

Porter was in command of the army landing site, even without having personnel actually on the ground. This was due to the tremendous direct fire capability of the ironclads and tinclads. There were 26 guns (mostly rifled 8 inch), and 13 howitzers (mostly 32 and 42 pounders); a total of 39 cannons among the four remaining vessels of the reconnaissance detachment. This was greater than two-thirds of the total number of cannons (54) Sherman would bring with the expeditionary force.¹³ Also, the majority of Sherman's cannons were of smaller caliber. Not included in the naval cannon figures were the 10 boats accompanying the army transports, or the mortar fleet. Sherman's soldiers were secure in the knowledge that the naval vessels would provide continuous, and heavy fire support.

With maps made by the army and provided to the navy, Sherman plotted his route and disposition of forces for landing on the banks of the Yazoo.¹⁴ Two companies with loaded muskets on each steam transport would provide security and return fire if attacked.¹⁵ Sherman's four divisions embarked on 59 steam transports; General Frederick Steele's division used the most transports--16--while General M. J. Smith's used the least--11. Christmas Day, Porter issued to Sherman the operational requirements for the army and navy elements on the water. Communications would be sent through the division commanders on the transports and they would supervise forming the vessels for departure. Porter retained the right to give orders to separate vessels for optimum security of all elements in the naval convoy. For added convoy security, Porter specified one light gunboat to act as a forward security element 400 yards ahead of the naval convoy. Next

would come an ironclad followed by the command vessels. At the rear of every 20 army transports a large gunboat would follow. A light draft gunboat would provide rear security. Each vessel would use its ship's pennant for signaling purposes.¹⁶ Likewise, Porter instructed his boat commanders that the signal for Federal troops advancing or retreating would be an American flag with two white handkerchiefs on each side. Sherman designated the exact landing points in the vicinity of Johnson's farm, Mrs. Lake's plantation, and Bunch's sawmill.¹⁷ He planned and issued his instructions while on the Mississippi and Yazoo River from his command vessel the *Forest Queen*.

The 59 steam transports of the expeditionary force included three commissary transports and one ordnance transport. Four transports supplied the needs of the whole corps. This demonstrates one of the decisive mobility advantages of using water transport. On land, the average U.S. Army corps used anywhere from 500 to 1000 wagons for logistical needs.¹⁸ It was a tail that slowed the fighting units of a corps, not to mention the wear and tear on the mules and horses. A smaller number of combat service support vehicles were easier to guard against enemy cavalry or guerrilla raids. On the other hand, one ordnance transport attacked and sunk would be very detrimental to the operation. In Sherman's and Porter's opinions speed was worth the risk, and long drawn out wagon trains were the bane of every Union commander in the western theater. Another disadvantage was that once Sherman's troops landed they could not venture far, or long, from their resupply point on the Yazoo. For Sherman this was not a consideration since he anticipated a rapid operation. However, he made sure the commissary and ordnance occupied a position near the majority of gunboats. He also directed that once the boats were secure, and well dispersed, "working parties will be set to work to unload the regimental wagons, the artillery and cavalry horses, and all things necessary for five days operation."¹⁹

Joint logistics between the army and navy were not as amicable as some of the tactical operations planning. The main sticking point was coal. Soldiers stole coal at Helena Arkansas and did it so often that Porter had to correspond with Sherman to try to get them to stop. On one occasion the captain of a vessel had to call the marines to prevent pilferage by the soldiers.²⁰ Soldiers wanted the navy's coal for use as a fuel to keep them warm; but, Porter told Sherman if it was to continue there could be a shortage of this commodity for the gunboats. Sherman readily provided a strong warning to his army units at Helena to deal harshly with any soldier caught stealing. This type of behavior on the whole was an anomaly. The army and navy logisticians came to realize that to be efficient they must work together. An example of this realization was when Captain Walke requested additional gunboat support for his Yazoo reconnaissance mission. The vessels came down the Mississippi short of provisions and had to resupply from army stocks at Helena.²¹ In Sherman's water convoy, ordnance and commissary transports contained supplies for both the army and navy.

When the army forces landed in the vicinity of Chickasaw Bayou, multiple missions still strained Porter's resources. As per operational and strategic guidance from Halleck and Grant, he still had to interdict and seize Confederate contraband on the waterways. It was a mission that infringed on Porter's tactical operations by diverting boats and resources. Additionally, the mission caused friction between army and navy rear echelon personnel about who was responsible for Confederate prizes seized.²² Essentially, higher army leaders wanted a higher priority placed on this mission; although it was not consistent with the joint tactical realities at the time. The contraband seizing mission did not affect First Vicksburg operations appreciably. However, the mission might in future joint operations have a significant impact when, or if, boats or resources were dangerously short.

In fact, the large number of boats prevented Sherman from achieving tactical surprise. As early as the 19th of November, General John C. Pemberton requested 10, 000 reinforcements because of the large number of Union gunboats and troop transports heading towards Vicksburg.²³ Sherman's landing on the 26th of December was unopposed, but Confederate General Stephen Lee with nearly 8,000 men occupied a formidable defensive position covering Chickasaw Bayou. Sherman, Porter, and the division commanders discussed plans for the following day's attack. Sherman had to modify his initial plans because of rain and the nonarrival of General A. J. Smith's division from Young's point. Steele was to reembark two of his brigades on transports and move to a position where he could enfilade the Confederates detonating torpedoes at the mouth of Chickasaw Bayou. Seeking the navy's cooperation, Sherman suggested to Porter that a bombardment against the Confederate's position on Snyder's Bluff would create a diversion favorable for the army.²⁴ Furthermore, Sherman requested that clearing the channel of torpedoes as far up as possible continue.

The next day Steele's brigades reembarked and by the afternoon were at the mouth of the Bayou clearing roads. The other army divisions started movement towards the Walnut Hills. Porter went to check on the status of the mine clearing operation, and discovered that his tars were under severe fire from Confederate sharpshooters on the west bank of the river. He hailed General Charles E. Hovey who commanded a brigade in Steele's division and asked for assistance. Obtaining permission from Steele, Hovey dispatched infantrymen of the 17th Missouri on two transports who ferried across and expeditiously routed the snipers. Quickly, the sailors returned to clearing the channel.²⁵

An unfortunate naval casualty was Lieutenant Commander Gwinn of the *Benton*. In an attempt to provide effective fire upon Snyder's Bluff, as per Sherman's directive, he maneuvered his vessel into a narrow channel of the Yazoo and moored it to the west bank. As he emerged from the armored pilothouse he remarked, "that a captain's place was on

the quarterdeck." Just at that moment the *Benton* received incoming artillery from eight guns situated on Drumgould's Bluff. He was hit on the right side of the chest and died from his wounds. Sherman in his memoirs illustrates the degree of trust, loyalty, and dependence the army felt for the naval personnel. Sherman wrote, "We of the army deplored his loss quite as much as his fellows of the navy, for he had been intimately associated with us in our previous operations on the Tennessee River, at Shiloh and above, and we had come to regard him as one of us."²⁶

This did not blunt the navy's support of Sherman's divisions as they probed to find an opening against the Confederates. On the 28th, the tinclads *Marmora* and *Forest Rose*, entered the Old River to shell the east bank in support of Colonel William J. Landram's right flank. The ironclads of the bombardment squadron, accompanied by the *Signal* and *Queen of the West*, feigned an attack on Drumgould's Bluff. This was to prevent the Confederates from shifting troops from Synder's Bluff to the Chickasaw Bayou sector against army forces. Personnel on the *Signal* noted the Confederates were in the process of building another battery below the ones engaged on Drumgould's Bluff on the 27th. Porter gave permission to harass the working parties. Subsequently, the big naval guns sent the Confederates dashing for cover, and prevented the addition of more cannons engaging the Union army.²⁷

Sherman by this time knew that Grant's actions in the east were unsuccessful, and reinforcements rapidly filled the Confederate ranks. Three times Sherman used the maneuverability of his water transports to move his troops to the flanks of the enemy for an attack. Unsuccessful in each, his last attack would be into the center of the Confederate defenses. But before he could do this he had to get a resupply of 6,000,000 rounds of small arms ammunition, promised by Grant but not delivered. Sherman asked Porter if he could send his "fleetest light-draught boat to Memphis" for the ammunition. Porter sent the *Rattler* which loaded up 4,000,000 cartridges, recoaled, and returned to

Vicksburg at forced draught.²⁸ The *Rattler* made good time completing the round-trip in a little over a day. After the vessel returned, batteries needing ammunition were to send details to the ammunition boat, *General Anderson*, tied up in the vicinity of Johnston's plantation.

All preparation completed, Sherman and Porter contemplated a surprise attack on the 31st. Porter agreed to let his ironclads bombard the Confederate batteries, and Sherman would send in 10,000 of his best troops to storm the Yazoo forts. For the fourth time, the water transports would shift the troops to positions of advantage against the Confederates for the start of the attack on New Year's Eve. Porter and Sherman wanted to maintain operational security so instructions were relayed to the troops to camouflage their transports using mud, and also instructed them there were to be no lighted cigars on-board.²⁹ Porter also told Sherman to select his quietest transports.

The repositioning of the troops using the transports went without a hitch during the early evening, and would have taken the Confederates on the bluffs by surprise. Porter, though, could not rendezvous his gunboats and ironclads in time to take advantage of the darkness because of a dense fog. Porter advised General Steele that he would not be in position to support the assault, and that Steele should call off the attack.³⁰ Steele concurred and send his recommendation along with Porter's to General Sherman. Proof of the army's heavy dependence on naval firepower, Sherman disappointedly called off the final attack on Chickasaw Bayou because of the absence of the ironclads and gunboats.

Grant in the meantime, had been having trouble with Confederate raiders on his tenuous railroad supply lines. Grant wrote to Halleck about the bad news of the failure of his army's right wing in the attack on Chickasaw Bayou. Furthermore, he wanted to send two divisions to Memphis, and personally take command of the amphibious expedition against Vicksburg.³¹ Grant also felt that by detaching these forces, it would become necessary for the Army of the Tennessee to fall back on Bolivar. By January 17th, in a

meeting with McClelland, Sherman, and Porter, Grant proposed that they resume work on the DeSoto Canal. The canal started by Brig. General Thomas Williams during the summer of 1862. Evidence that persistent Union leaders were already pursuing alternate ways to use army and navy forces in the Delta to turn the right flank of Vicksburg or skirt its batteries.

DeSoto Canal Operation

One such way for Union vessels to pass out of range of the Vicksburg batteries, was the army trying to renew efforts to cut a canal across DeSoto Point. The canal was to debouch into the Mississippi downstream from the Vicksburg bluffs, "and give our gunboats a fair chance against any fortifications that may be placed to oppose them."³² It was not significant in terms of extensive joint combat, but an example of one way naval assets lifted the morale of the army. Digging the canal was back-breaking work for the troops, and with the mid-January rain, the area was a total quagmire. It was impossible to establish a land bivouac; therefore, the soldiers had to live and keep their stores on the steamboats. Here they could keep warm and dry, and the navy had the hospital ship nearby for sickcall, which had been brought down for the Chickasaw Bayou expedition.³³ A naval gunboat patrol provided river security, which decreased the numbers of soldiers required to pull this duty. Eventually the close-quarters on the steamboats would lead to health problems. However, without naval steam vessel support, it is hard to imagine another way the Union army troops could have survived at all, lacking a land bivouac and storage area.

The naval officers also interfaced with the army soldiers and pioneers as they dug the canal. These naval officers provided valuable technical information on the water conditions that would make the canal a successful passageway. To create these conditions, the naval officers specified and monitored the required width and depth of the

canal. The naval officers were experts on the mechanics and scientific considerations of water flow; therefore, they were added to the knowledge that the soldiers brought about terrain factors.

Lake Providence Operation

Through vigorous joint army and navy reconnaissance two other possible routes, west and north of Vicksburg, were found. First, Grant asked Porter to have one of his light draught gunboats, along with Lt. Col. W. L. Duff of Grant's staff, explore a possible route in the vicinity of Lake Providence on the west side of the Mississippi. In their joint report to Grant they concluded it was possible. It was a long and tortuous route that would need numerous trees cleared from the passageway. Moreover, it would require a levee to be cut at the Mississippi, that would raise the level of the lake. Once this was done there was still the problem of finding a gunboat route through Bayou Baxter or Bayou Macon, passing west of the Vicksburg batteries. There was no doubt it would be a long shot.

Maj. Gen. James B. McPherson was put in charge of the attempt. Soldiers steamed down from Memphis, and after the pioneers blasted the levee, immediately went to work clearing obstructions from the Bayous. Using blocks and tackle they also moved naval vessels from the Mississippi to Lake Providence.³⁴ Once again it was a lot of hard work against rapidly rising water. Slowly but surely each element of Grant's Army was seeing the importance of tactical mobility and joint operations; as highlighted by the priority given to finding a gunboat passage by McPherson and his division commanders. Almost concurrently with this operation Grant pressed forward a more promising joint venture at Yazoo Pass.

Yazoo Pass Expedition

This potential route led from Yazoo Pass (six miles below Helena) into the Coldwater, Tallahatchie, and Yazoo Rivers. If successfully navigated, this route would enable the army and navy to turn the Confederate's right flank at Synder's Bluff.³⁵ Lt. Col. James H. Wilson, Grant's chief topographical engineer, received the mission to determine if the Yazoo Pass would be a feasible route. He obtained a 500 man fatigue detail at Helena to help him in reopening the pass if necessary. Boarding the *Forest Rose*, with part of his detail he started the short voyage to the Pass entrance. The remainder of the detail ferried on the *Henderson* and *Hamilton Belle*.³⁶

Previously, the Confederates had done a little interservice cooperation of their own. Two months earlier Commander Isaac N. Brown, one of the Confederate's stalwart "brown-water navy" leaders, had conducted a reconnaissance of the area. Brown prepared a memo for General John C. Pemberton stating that at the high water mark the Union army and navy might be able to flank the Confederate's defensive positions. He suggested obstruction of the pass by some means. Ultimately, a force felled trees and the Confederate steamer *Star of the West* was sunk to prevent passage of Union gunboats. (This was the same steamer that gained fame at Fort Sumter in the beginning of the war.)³⁷

The Union army and navy would eventually have to deal with these Confederate defensive preparations; but, for now they would have to breach the levee blocking Yazoo pass. Wilson had the pioneers make two breaches in the embankment then bury 50 pounds of powder under the dike. Under Wilson's direction, Acting Master George W. Brown of the *Forest Rose* detonated three mortar fuses tied together, igniting the powder, and blowing a lane through the levee.³⁸ Wilson reported to Grant the successful breach, who immediately issued a warning order to units that would participate in this attempt to descend the Yazoo and Yalopousha Rivers.

Grant sent a memorandum to Porter outlining his joint army and navy plans. He told Porter that Sherman would supply 600 men to serve as the expedition's marines.³⁹ Since these men would have the boats as a base they would not have to bring tents or transportation. Lt. Cdr. Watson Smith, who commanded a division of vessels was put in charge of the naval contingent. Porter detailed five gunboats and one ironclad to support the joint operation.⁴⁰ Included in this boat total was a vessel commanded by Lt. Cdr. James P. Foster, who would accompany Smith on the ironclad *Chillicothe*. Instructions from Porter to Foster indicated that the ironclad would do the close in fighting for the army instead of the light draught gunboats.

In a correspondence to Welles, Porter illustrates some of the confusion at the departmental level affecting the Yazoo Pass operation. "This was to have been a naval affair altogether, only I borrowed 800 men from General Grant to fill up our crews. At the last moment (and without my knowing it) 6,000 soldiers were ordered to join the expedition. Six days were lost waiting for them."⁴¹ Surely, Grant would have been surprised by Porter's pronouncement of a purely naval affair if he would have been privy to this correspondence.

In stark contrast to the C2 relationship exhibited in the Chickasaw Bayou joint operation, friction developed between the service leaders at the onset of Yazoo Pass. Navy Lt. Cdr. James P. Brown, who led a joint army and navy reconnaissance/landing party gained some valuable intelligence from captured contrabands. They indicated that a Confederate force located where the Coldwater connected with the Pass knew about the upcoming Union expedition and would try to attack it. Reacting to this, and having doubts about the navy gunboats' capabilities to traverse the Pass, Brig. Gen. Willis A. Gorman, supervising the army and naval preparations, confronted Smith. He voiced apprehension and wanted to call off the joint expedition. Smith in his reply started to show signs of "combat stress" that would debilitate him later in the operation. "I shall go

on with my part as far as possible without being influenced by them, having confidence in the authority that sent me here."⁴² This episode at the start of the expedition is an example of an army officer not realizing the full potential of naval gunboats. Likewise, Gorman should have been a little suspicious of the incautious answer from Smith about the enemy and higher authorities. In this instance, the limited experience, professionalism, and knowledge of service leaders about the other service would have a dreadful effect on joint cooperation.

On February 20th, Smith anchored his light draught gunboat and ironclad fleet in Moon Lake, while waiting for the conclusion of clearing operations, and the army transports to arrive. He gained one additional ironclad, the *Baron De Kalb* and the tinclad *Marmora*, during the interim between the receipt of Porter's order and execution of the mission. By the 26th all army and navy elements left the Moon Lake assembly area. Smith had the ironclad *Chillicothe* take the lead in the convoy, followed by the *Baron De Kalb*, the 13 steamboats with 4500 troops, one army transport, and then a towboat with three coal barges. The light draught gunboats embarked 100 each soldiers for sharpshooting and for dismounted security missions. The gunboats would disperse throughout the column and provide additional security to the troop steamboats.⁴³ This was a tricky maneuver since only one vessel at a time could traverse the stream. Also, hairpin turns, overhanging branches, and shallow water would tax the vessels pilots' steaming abilities. Wilson, who would accompany the expedition, and who had also reconnoitered the Pass and Coldwater River, strongly suggested that Smith should relook his organization for convoying.⁴⁴ The primary for this was that Smith did not have an adequate forward reconnaissance element the way he task-organized. If he had a small forward detachment Smith would be better able to control the situation, and not steam into an ambush.

Soldiers on board the gunboats and steamboats had to pitch in with the sailors to guide the boats along, using lines tied to trees along the bank. The 12 mile voyage from Moon lake to the Coldwater River took an unexpectedly long three and one-half days.⁴⁵ No damage occurred to the ironclads from the overhanging branches during the passage; but two of the steamboats, the *Diana*, and the *Emma*, sustained serious damage to their superstructures. Brig. Gen. Leonard F. Ross commanding the soldiers on the steamboats detailed the 1st Indiana to protect the boats if they were left behind. Adding to these troubles, other steamboats experienced mechanical difficulties during the passage.⁴⁶

Smith was conscious of Porter's and Grant's desire to speed up the convoy. This was not easy to accomplish, even for an aggressive naval commander (and Smith was not), since sailing on the Coldwater was only slightly better than the Yazoo Pass. Besides sailing and mechanical difficulties, both the army and navy were short of rations. Therefore, joint army and navy foraging teams scoured the countryside for beef and cotton, slowing down the convoy's progress. This was possible since the Coldwater flowed through a partially developed agricultural area.⁴⁷ The gathering of cotton was done to make bulwarks to protect the steamboiler smokestacks and the army sharpshooters from enemy rifle fire. Wilson complained to Grant about these delays: "I frequently, from the day the expedition left Moon Lake, urged that the . . . ironclads, and two light-clads, . . . should be pushed forward with the greatest possible speed, leaving the transports and balance of naval vessels to come forward as rapidly as they could."⁴⁸

Porter and Grant were unknowingly exceeding the joint tactical cooperation capabilities of the "stressed" naval component commander, Smith. Ross, too, who seldom consulted with or advised the naval commander, seemed to be ignorant of some of the significant problems facing the convoy. Apparently not thoroughly informed about the area of operations, Porter and Grant tried to funnel more vessels and troops down through the tortuous channels to the expedition's main body. The messages sent on the naval

dispatch boats with army and navy correspondence were too few, or did not present a clear picture for the department headquarters of the ongoing operation. Porter sent Smith two additional rams and a gunboat which met his convoy at the entrance to the Coldwater. Smith complained that he did not have time to inspect or prepare the boats for the expedition. They were three additional boats that he did not need, but now had to manage and provide support for. Likewise, Grant wanted to push Maj. Gen. James B. McPherson whole corps of 25,000 men down the streams because of the perceived success of the mission thus far. Both of these actions were logistically and tactically unsound; Smith and Ross should have sent a joint report to that effect on the dispatch boats to their respective service heads. The navy vessels were now dangerously short of coal including the three boats that joined the convoy.⁴⁹ The maneuverability of more army and navy forces would have been difficult or even impossible. Gen. Isaac F. Quinby of McPherson Corps was already delayed because his divisional steamboat transports were too large to enter the Pass from Moon Lake. He had to wait for smaller steamboats and reembark his soldiers for the passage.⁵⁰

More trouble was ahead for the army and navy convoy as it started chugging down the Tallahatchie, confidently heading towards the Yalobusha. Ross completely disregarded the reports of the large concentration of Confederates and their artillery at Greenwood down the river. He was not told, or did not think it significant, that the ironclads *Chillicothe* and *De Kalb*, which ranged ahead of the task force, had encountered the Confederate steamer *St. Marys*.⁵¹ It outran the ironclads and headed towards Greenwood, 70 miles down the river. On the night of 10 March, as the steamboats lay at anchor, the soldiers and sailors were again told by run-away slaves that the Confederates had a stronghold at a place called Fort Pemberton. It was located on the narrow strip of land separating the Tallahatchie and Yazoo Rivers near Greenwood, 32 miles away.⁵²

On the morning of the 11th, Smith, Ross, and Wilson boarded the *Chillicothe* to conduct a joint reconnaissance of the fort. They steamed to within 800 yards of it, where they received an incoming storm of effective artillery fire. The *Chillicothe* was hit two times, and then returned fire as it backed upstream. Rejoining the convoy tied up at Shell Mound Plantation, Ross sent the 46th and 47th Indiana to probe the enemy position. They did not have any luck because of the flooded countryside; but, army scouts noted that the Confederates were driving cattle and gear from the fort. To verify this report Ross and Smith decided to send the two ironclads, *Chillicothe* and *De Kalb*, and the ram *Lioness*. Once again, the Confederates pounded the *Chillicothe* as it approached. It was hit four times in the space of seven minutes, causing extensive damage. Smith became highly agitated at the inability of the ironclad to withstand the enemy's fire.

Due to the narrow channel, the ironclads and gunboats could not bring their port or starboard guns into action against the fort to support the army. So, through a joint reconnaissance effort a dry piece of ground in the woodline was found. Here, a fatigue party under Colonel Wilson's direction erected a cotton-bale battery position within 700 yards of the Confederate 32-pounder. He put a 30-pound parrot, dismounted from the *Rattler*, into the battery, since the army did not bring any siege guns.⁵³ During the night of the 11th, another 30-pounder from the *Forest Rose* went into the position. The next day both the dismounted army force and navy guns, along with the ironclads, attacked the fort with direct and indirect fire. Despite this intense fire from the joint Union force the Confederates sustained limited casualties; but again the luckless *Chillicothe* took the brunt of the enemy fire.

Wilson expressed his dismay at the performance of the navy in a letter to Grant. I'm disgusted with 7, 9, 10 and 11-inch guns; to let one 6 1/2-inch rifle stop our Navy. Bah! . . . They are to attack to-morrow, but may not do much. I have no hope of anything great . . . under direction of their able and efficient Acting Rear-Admiral, Commodore, Captain, Lieutenant Commander Smith.⁵⁴

This was a sad, sarcastic commentary on the state of joint cooperation. It also was not a correct assessment. First, he seems to indicate that the navy would attack alone, and essentially abrogates any responsibility for the army in supporting or helping the attack. Second, Ross or Wilson should have noticed the questionable ability of Smith in handling joint operations, and his confused mental state after the severe poundings his vessels received.

Eventually Lt. Cmdr. James P. Foster of the *Chillicothe* replaced Smith who was medically relieved. This did improve joint cooperation somewhat. Although, the army and navy were still not "in concert" as they continued to try to subdue the fort. The gunboats and ironclads under new leadership tried numerous times to "come to close quarters" and destroy the fort. This was the standard way to use the ironclads, but in this case, only resulted in the ironclads being hit several times by the superior Confederate batteries. Ross in conjunction with these naval attacks tried to find a route towards and around the fort. These reconnaissances were unsuccessful. The failure of the ironclads and gunboats, land reconnaissance, and a perceived danger to his line-of-communications forced Ross to retreat from Fort Pemberton.⁵⁵

Steele's Bayou Expedition

Almost concurrently with this operation Lieutenant McLeod Murphy, U.S.N. discovered a water pass through the woods 10 miles above the mouth of the Yazoo. He felt that gunboats could reach the valley of Deer Creek, and going through the Sunflower and Yallabusha would reenter Steele's Bayou and the Yazoo behind Vicksburg. Grant and Porter thought it was important not only because it might be another route to the rear of Vicksburg, but also if feasible, could relieve some of the enemy pressure on the Yazoo Pass expedition. They conducted a joint reconnaissance to see if the gunboats could get through the heavily wooded passage. Porter recounts in his naval history, "The route was

examined by General Grant and Admiral Porter, and being found apparently practicable for the purpose intended, it was determined between Army and Navy leaders that an attempt . . . should be made."⁵⁶ Porter, disgusted with his subordinates' performance in the Yazoo Pass expedition, told Grant he would personally lead the naval contingent. Grant designated Sherman as the army component commander, using a force of between 8,000 to 10,000 men.

The habitual relationship that is an important facet of joint operations was evident as Porter and Sherman began their planning. Having worked together in the Chickasaw Bayou and Arkansas Post expeditions, they experienced firsthand the capabilities and limitations of each other's forces. Therefore, they had a better feel for what their service component should do to complement the other service's actions in pursuit of an objective. Grant wanted Porter and Sherman to conduct a joint reconnaissance-in-force operation to find out if his army could follow. Sherman understood the necessity of first clearing hindrances to the gunboats' mobility. Just as he had learned in the Chickasaw Bayou, he first thought about a force to conduct clearing operations for initial and follow-on steamboats. As Grant suggested, "The Eighth Missouri (many of them were former boatmen) would be excellent men for this purpose."⁵⁷ Sherman sent this force to conduct mobility clearing operations and issued orders for his first division to embark on steamboats and land at designated points. Afterwards, realizing the importance of early and thorough coordination with the naval component commander, Sherman, two staff officers, and a orderly boarded a navy tug and headed out to overtake Porter who was in the vicinity of Deer Creek. Upon link-up they started development of the joint operations plan and conducted a limited joint commander's reconnaissance further up Deer Creek. Once satisfied with the joint plan, Porter asked Sherman to return to Black Bayou "and use all possible means to clear out Black Bayou."⁵⁸ Sherman exhibited the proof of his

developing knowledge about joint operations; since he had already started soldiers clearing the bayou in forethought of their mobility requirements.

Upon the departure of Sherman, Porter started his vessels up Deer Creek and left one ironclad, the *Louisville*, to cover the army's steamboats as they arrived at the confluence of the two streams. For this joint reconnaissance-in-force Porter led a special task force which consisted of five of the seven city class ironclads. This task force could meet any variety of mission requirements; for example, recon, defense, or attack for the joint force. Previously, Porter had great problems in steaming on Steel Bayou, but now on the Creek which had widened out, he felt confident of success. Overconfidence got the best of him though, because shortly some of his vessels reported willows fouling their steam wheelers and slowing their progress. On top of this news Porter received intelligence reports that a Confederate force had cut trees obstructing the narrowing channel to his front. He sensed now that he had gotten too far ahead, and out of supporting distance from the army. Porter sent a dispatch with his personal secretary urging Sherman to bring his troops forward as fast as possible, or the expedition would be blocked or captured by the enemy.⁵⁹ Attesting to the seriousness of the situation Porter went to "general quarters", and told his sailors to prepare to repel boarders by rubbing creek mud on the sides of their vessels.⁶⁰

Sherman, troubled by the distant rumble of heavy artillery fire in the direction of Deer's Creek, returned to his headquarters. Before reaching his command post Porter's personal secretary handed him the request for assistance.⁶¹ After reading the note he dashed off a quick reply to Porter. In it he stated that he would look at all possible routes to speedily come to Porter's assistance. About 48 hours later Sherman received another note from Porter stating that the convoy was stopped and he needed reinforcements desperately. Sherman sent another reply saying, "the foe will undoubtedly succeed in obstructing Deer Creek, but, he promised, the army will prevent the enemy from assailing

your squadron in the rear."⁶² Certainly the importance of mutual support between the army and navy became painfully clear to Porter as he sat in Deer Creek under enemy fire.

Sherman, frustrated by all attempts to find a quick and sufficient passage for his troop steamboats, appointed General Giles Smith to head a relief column to go overland to the aid of Porter. Grant at the same time ordered a division of McPherson's corps to also go to Porter's relief. The two Union commanders definitely did not want to lose a large majority of the ironclads, or the intrepid naval commander. Smith conducted a forced march down the east side of the swampy creek. He marched both during the day and at night, and during the day, Sunday March 21th, reached the Admiral's blocked force. As per Sherman's orders Smith reported to Porter for instructions. Porter, delighted in seeing him and his soldiers, said he had never realized "before how much the comfort and safety of ironclads, situated as . . . [they] were, depended on the soldiers."⁶³ Using the soldiers as a security force and fatigue detail removing obstructions placed by the Confederates, Porter extracted his ironclad fleet from the clutches of the enemy and Deer Creek. Obviously when he saw Sherman and Grant for discussions about further joint operations in the Delta region he was pessimistic of any further attempts.

None of Grant's or Porter's joint attempts to turn the right flank of Vicksburg or skirt its batteries succeeded. Not taking the narrow view of success or failure, the army and navy commanders could say they succeeded in learning valuable lessons that would hold them in good stead for future joint expeditions. Emerging from the joint execution of five of the battlefield operating systems was an embryonic unofficial joint tactical doctrine. In joint C2, the personalities and capabilities of the army and navy component commanders were critical factors. Comparison of Sherman's and Porter's performance in the Chickasaw Bayou Expedition to Ross and Smith in the Yazoo Pass attests to this. The decisive maneuver advantage that the steamboats and gunboats provided over the enemy was evident in Chickasaw Bayou, where Sherman could shift troops rapidly using

steamboats. Soldiers and sailors used joint convoy security formations in all movements, except for Steele's Bayou. The gunboats and ironclads had more firepower than the army had in all the operations where naval firepower could be brought into action. In cases where the naval artillery could not be brought in to action, it could be dismounted on land to support the army. In all these joint operations the forward naval component provided advanced intelligence for the army, either by visual methods or dismounting a joint army and navy intelligence gathering team. Logisticians of both the army and navy learned to depend on each other for ammunition, fuel, and shelter. All in all, the trial and error method of developing a joint tactical doctrine started to take shape, and the army and naval leaders were not finished refining it yet.

Grant, Porter, and Sherman still had one major avenue of approach to take advantage of against Vicksburg--the mighty Mississippi. Naval vessels had run the Vicksburg's batteries since late 1861, but now Grant wanted a joint operation to bypass the heights of Vicksburg in support of a daring plan.

CHAPTER 4

JOINT TACTICAL BATTLES ON THE RIVERS

I had no more authority to command Porter than he had to command me. It was necessary to have part of his fleet below Vicksburg if the troops went there. Steamers to use as ferries were also essential. The navy was the only escort and protection for these steamers, all of which in getting below had to run about fourteen miles of batteries.¹

Personal Memoirs of General Ulysses S. Grant

Area of Operations

The topography of the Delta region, north and northwest of Vicksburg, constrained the full effectiveness of joint army and navy operations, especially in combat operations. In a joint attack, most waterways were too narrow for the gunboats or ironclads to concentrate or mass their firepower. Furthermore, the army could not fully cooperate with the navy in some instances, because of the heavy vegetation and swampy terrain on the land-side. Conversely, joint operations on the Arkansas, White, and mighty Mississippi Rivers exhibited the full capabilities of both services in joint operations. The navy had the maneuver space, and the army could choose a solid landing site for the start of their operations.

Both the Arkansas and White Rivers flowed generally southeastward into the western side of the Mississippi River at a point almost equidistant between Memphis and Vicksburg. The Arkansas River provided a direct navigation link from Little Rock, Arkansas to cities north or south on the Mississippi. The river at some points could reach a width of one-half mile wide. It had a long history as a commercial trading route, and at many places farms had established wharves that reached into the water. Cleared fields and

some cultivated crops, particularly cotton and corn, were also evident along its banks. The White River was not a significant trade route like the Arkansas. It was important though, since it provided a way to enter the Arkansas, which sometimes had its mouth partially obstructed at the Mississippi because of sand desposits. Each river had a depth of 10-12 feet, and flowed at a rate comparable to the Mississippi's two and a half to four miles per hour.

The Mississippi is an immense river. It is the third longest river in world, and the eight largest in terms of volume discharged into the sea. Similar to the Arkansas River it could reach a width of one-half mile across at some points. Geologists consider it an old river that twisted, turned, and cut back on itself at certain places. In 1863, and still today, along its banks were many landing sites, cities, farms, and cultivated fields. Flatboats, barges, and vessels of all kinds hauled commercial goods north and south of Vicksburg on this logistical artery. Its depth of greater than 12 feet on average, width, and relatively swift current made the Mississippi River an ideal water thoroughfare.

Not only commercially, but also militarily, the Arkansas, White, and Mississippi Rivers were ideal avenues-of-approach for military operations. Both the Confederate and Union forces could use these rivers to facilitate most forms of joint tactical defensive or offensive operations. The Confederates struck first militarily when they attacked and captured the vessel *Blue Whig* on December 20, 1862, below Helena, Arkansas. This action by the Confederates affected both the Union army and navy, since the vessel carried ammunition for General Sherman's soldiers and coal for Rear-Admiral Porter's gunboats.² The enemy took the *Blue Whig* northwestward up the Arkansas River to a Confederate river strongpoint commonly referred to as "Arkansas Post." The Union army and navy had to deal with numerous enemy threats from Cairo, Illinois to the north of Vicksburg on the Mississippi River. But one general, Maj. General John A. McClernand, felt this menace from Arkansas Post could have a severe impact on Grant's logistical operations on.

the Mississippi; therefore, upon arriving from Washington he eventually decided on a joint army and navy attack on Arkansas Post.

Arkansas Post

A joint command and control theme that was similar to the joint bayou expeditions would develop again in the tactical joint river campaigns. This theme was a general lack of initial communication between senior service component leadership. The break-down in communications was not the fault of anyone in particular. Grant tried to inform Sherman after the Chickasaw Bayou battles of a change in the organization of the army.³ Instead, McClelland brought the news that Sherman would revert to commanding a corps, and McClelland himself would command this supposedly independent army, which he called the "Army of the Mississippi."

McClelland had no specific plan of action when he assumed command, but in consultation with Sherman, he saw that a joint attack on Arkansas Post would be a good way to get his feet wet in combat. Sherman suggested that together they should board McClelland's command vessel, the *Tigress*, to go and coordinate with Porter at his flagship, the *Forest Queen*, about the upcoming operation. McClelland protested but finally decided to accompany Sherman.⁴ McClelland's attitude reflected his lack of knowledge about the importance of the close interservice cooperation "face-to-face" between the army and navy leadership. He could not just order Porter to go; first, because he did not have the authority to; and second, because Porter would not conduct a joint venture that would risk his sailors, vessels, or reputation needlessly without a thorough explanation of the concept-of-operations from the army component commander.

Another factor that Sherman did not consider, or know about, was that Porter had met McClelland in Washington and had "taken a strong prejudice against him."⁵ It was understandable then when the two met again on Porter's flagship, and the command

arrangement was discussed, that the two were visibly curt with each other. Porter went as far as saying that:

he did not come under army rule and knew exactly the terms on which General McClelland had received his orders [*political, not military ability*], he declined to have anything to do with the proposed expedition to Arkansas Post, unless General Sherman should go in command of the troops.⁶

He went on to add that he could not accompany the joint expedition because he was short of coal for his gunboats and ironclads. At this point Sherman asked Porter to step outside his cabin where he could talk to him in private. Consequently, he discovered the reason for Porter's behavior towards McClelland, and in spite of this, eventually convinced Porter of the need for the joint expedition. Returning to the cabin Porter stated he would go, and even would command the naval component instead of one of his subordinates. To appease Porter, McClelland offered to tow the gunboats up the river to save coal. By all indications from this initial meeting between the army and navy leaders, joint cooperation could only improve.

While both services went about issuing orders and mustering forces, Porter took the first step to provide some security to the army's main-supply-route down the Mississippi. He dispatched two gunboats, the *Conestoga* and *New Era* under LtCdr Shirk to seal the mouth of the Arkansas and White Rivers.⁷ Additionally, he gave instructions that coal barges for army and navy vessels that sailed down from Memphis should consolidate at the mouth of the two rivers.⁸ In essence, he established a forward refuel-on-the-move point at just about the line-of-departure for both services' vessels. Moreover, Porter sent information that would assist McClelland in his intelligence preparation of the battlefield. This information consisted of charts of the Arkansas and a list of distances.⁹ He also included a description of Arkansas Post collected from a refugee picked up by one of his ship captains.¹⁰ Porter was clearly getting over his initial reluctance to cooperate with the army. He showed his seasoned experience acquired from

the Chickasaw Bayou campaign by assisting the army immensely at the start of this joint expedition.

On the army side, McClelland sent Porter a copy of the instructions that he gave to his two corps commanders.¹¹ These instructions were really McClelland's concept-of-operations, but strangely enough, failed to include any specific guidance on what part the navy would play, except maybe for transport duties.¹² Sherman's orders, which laid out the way the navy would assist the army at Chickasaw Bayou was in sharp contrast to McClelland's omission of specific instructions for his naval component. This illustrates how an inexperienced general with no doctrine to guide his actions could debilitate the joint operations from the start. Fortunately, McClelland would take Sherman's advice in reference to joint operations. Furthermore, Porter, when not consulted, would take actions on his own initiative to assist McClelland's "so-called" army.

Sherman quickly realized the potential of the rivers when he issued his movement instructions to his division commanders. Now, not only would each steamboat have a ready reaction force of two companies to return fire against enemy firing from the shore, but he outlined a more detailed reaction drill for his subordinates. This drill specified that in reaction to shore fire one steamboat would run by the enemy and land above the enemy force. The other steamboats would land below the suspected enemy position. These two elements, one above, and one below, would then send their infantry companies to maneuver and encircle the enemy force. But Sherman also added the caveat that if gunboats were nearby, it might be just as advantageous to let the gunboats shell and suppress the enemy position.¹³ He left this decision to the division commander and naval personnel nearest the action in the river convoy. Moreover, Sherman more fully described the landing instructions once at the objective landing site. Each division commander would first land a brigade to secure the landing site and cover the steamboats and gunboats from the land-side. All men, horses, artillery, and wagons would then unload,

and a small guard of sick soldiers would remain to guard the steamboats at the landing site. Finally, for security purposes on the river the steamboats would maintain an interval of 100 yards, so they would not present such a lucrative target to enemy forces on the shore-line.¹⁴

According to Porter's general order number 30, he put the majority of his combat power forward in the joint army and navy convoy up the rivers. Two gunboats, the *Marmora* and *Rattler*, would be the forward security element for the convoy, followed by the gunboats *Romeo*, *Juliet*, and Porter's command gunboat, the *Forest Rose*. The next elements forward of the army transports would be the three ironclads, *Louisville*, *Baron De Kalb*, and *Cincinnati*. This forward positioning of combat elements on the wide rivers provided security, and a method to quickly mass covering fire as the army steamboats maneuvered around or below Porter to land troops for maneuver against a threat. Also, these vessels would keep watch for torpedoes, floats, or wires from the shore that might sink the army or navy vessels. The gunboat *Signal* would provide security for twenty of the steamboats in the first part of the convoy, and the *Lexington* would be rear security. Another way Porter assisted McClelland was to position two additional gunboats, the *Red Rover* and *Torrence* at the mouth of the White River, thus, effectively preventing the Confederates from dispatching reinforcements down the Mississippi, and up the White and Arkansas Rivers.¹⁵

The joint attack force was to depart by January 8th, but not before McClelland and his staff ironed out more coordination problems with Porter. Porter cautioned McClelland's staff on the dangers of sailing at night, and contrary to McClelland wishes wanted to at least start sailing during the daylight. The general finally relented on this point, with a planned departure time of eight o'clock.¹⁶ Another problem was the synchronization of this huge convoy's movement towards the line of departure. McClelland sent Porter a message, "Will you please inform me when you are ready to

move?"¹⁷ Porter referred him to the signal officer he had provided for liaison on McClelland's command vessel, the *Tigress*, and told McClelland to signal through him. Unfortunately, unknown to Porter this signal officer had left McClelland's vessel. Exasperated, McClelland said he would send Porter word of when he wanted to depart, and afterwards would fire a signal cannon. Finally, trusting the capabilities of Porter, he also stipulated that when the convoy did depart it would move according to Porter's General Orders, No. 30.¹⁸ This whole episode is illustrative of a situation of where something as fundamental as starting a movement can be very difficult when there is no prior interservice plan of how to go about it.

The expedition finally did start, and left from the vicinity of Milliken's Bend at eight o'clock on 9 January. McClelland directed the army and navy convoy towards the White River; thus trying to deceive the Confederates of his real intent to use the cut-off into the Arkansas and sail up that river. The joint convoy sailed to the north and headed up the Arkansas River. The naval fleet and army steamboats arrived at the landing site, Notrib's Farm, by 5:00 p.m. on the 9th, and disembarking operations continued until noon on the tenth. Notrib's Farm was three miles down from Arkansas Post. The morning of the tenth McClelland reconnoitering the ground towards the fort with his corps commanders and cavalry commander. Towards the end of the day, while his corps were still moving into position, McClelland hurried back to request that Porter provide diversionary naval fire so the Confederates would not delay his army corps' movements into assigned positions. In McClelland's words, "Promptly complying, the admiral advanced his boats and opened a terrific cannonade upon the fort, which was continued an hour or so after night-fall."¹⁹ McClelland's corps commanders also commented in their reports about the efficiency of Porter's and his navy's actions. The navy with this cannonade fire began the attack on the "Post" for the army commander.

McClelland wanted to conduct the main attack the next day with a synchronized attack from the water and land. Porter, in his dusk attack, received some effective artillery fire against his ironclads, from positions just forward of the fort's embrasures. He wanted to have these forward Confederate positions suppressed, so he could more effectively contribute to the synchronized joint army and navy attack. Porter had lent Sherman four 30-pounder Parrots to augment Sherman's firepower. Porter suggested that these Parrots would do good service in bombarding the Confederate forward artillery positions.²⁰ Quickly, McClelland designated the 2nd Brigade of Morgan's 2nd Division to range the Confederate guns with the Parrots for the upcoming attack. Since there was no exchange of artillery fire support personnel between the army and navy Porter had to issue precise fire control measures for the joint attack. He told his ship captains that Sherman's advance would be in line with their fire on the other side of the Post; therefore, each captain should direct his cannon fire just into the fort, not outside of it.²¹ Finally, Porter issued instructions to his ship captains and to McClelland for probably the least reliable, but certainly the easiest method of fire control - shouts from Sherman's soldiers on the shore to cease firing.²²

The ironclad and gunboat attack commenced at 1:00 p.m. Once the navy vessels opened up, the right side of the army line started shooting artillery, followed by the left side of the line. According to General Morgan, who commanded the left wing of the Union line, the gunboat and ironclad fire along with Lt. Webster's artillery fire on the Confederate forward positions filled the Post's trenches with enemy dead.²³ At one point, the gunboats and ironclads sailed further upstream to get to a better position to fire on the fort, and a naval officer did something that rarely happens in current joint operations. Porter's flagship docked on the west bank of the river, and a naval officer disembarked stating to one of the company commanders, "Now is your time to do something. Where is the officer in command?"²⁴ He then told Colonel Lindsey, who had set up across the river

from the Post, where to more effectively position a battery to engage the Post. Porter and McClelland also developed plans to put a regiment on gunboats to land above the fort. This joint maneuver was not necessary because after nearly four hours of intense bombardment the garrison surrendered.²⁵

Colonel Dunnington, a former rebel naval officer, commanded the fort, and only agreed to surrender to another naval officer.²⁶ Porter accepted his surrender, while General Churchill, who retained overall command of all Confederate forces in the area, surrendered to McClelland. The surrender ceremony was truly a joint operation with both services actively partaking in the process.

In the CSS area both army and navy commanders leaned heavily on the other service for support and assistance. McClelland requested that Porter provide gunboat security for steamboats carrying prisoners to Louisville. He also offered Porter the use of his hospital ship for the navy's wounded, which Porter declined, because he said they would use their own. Additionally, McClelland wanted Porter to evacuate the equipment surrendered by the Confederates.²⁷ Finally, Porter asked McClelland for some assistance in leveling some sandbars opposite the Post that might obstruct the steamboats or gunboats. These joint CSS tasks were an indication of the many ways that each service could complement each other, not only during battle, but after.

McClelland gave fair credit to the navy when he published his congratulatory orders. "Rear-Admiral David D. Porter, commanding the Mississippi Squadron, efficiently and brilliantly co-operated in accomplishing this complete success."²⁸ Porter still exhibited a low opinion of McClelland when he recounted in his naval history, "General McClelland in his report gave fair credit to the navy; but he actually had nothing to do with the management of the army, and was down four miles below the forts during all the operations. Sherman was virtually the military commander."²⁹ Additionally, Porter

thought that the best lesson the army and navy learned was that the only way to fight the Confederate batteries was at close quarters on water and land.³⁰

On or about the 16th of January, Grant received orders from Washington to command the army forces which would conduct operations against Vicksburg.³¹ The order also implied that he could request assistance from the navy as he saw fit. Finally, the political general, McClelland, was subordinated to Grant. Grant could now pursue what he saw as his ultimate objective—the attack of the river strongpoint Vicksburg.

Running the Batteries of Vicksburg

Quickly, Porter made sure that a reliable and responsive communications link was set up between him and Grant. On the 29th of January he had dispatched the *Forest Rose* under Lt. Brown to General Grant. Porter's instructions to Brown were that he would be a bearer of dispatches, or whatever Grant wanted to employ him for. However, Porter emphatically told Brown, "you will report to me on every opportunity."³² This implied that Porter wanted to be kept fully informed of the army's operations, and desired this information as quickly as possible. It was also a smart move because Porter could very quickly influence Grant's decisions before Grant became too deeply committed on a joint course-of-action. Grant was still unsure of what approach to take in turning Vicksburg; thus, this communications vessel would provide a viable means to receive the naval component commander's planning input. Porter was restless, and it did not take long for him to give that input.

The majority of his fleet had been idle for eighteen days following the capture of the Arkansas Post. He saw an opportunity to get below Vicksburg on the Mississippi River by running the batteries. He would at the same time attempt to sink the Confederate steamer, *City of Vicksburg*, to demonstrate to the Confederates the capabilities of the Union navy. Furthermore, according to Porter, the reasons for running the batteries were

twofold. A small number of gunboats or rams below Vicksburg would be able to interdict Confederate supplies and transportation from the Red River and Texas, or up from Port Hudson.³³ This would force evacuation of Confederate positions at Warrenton and Grand Gulf. If this occurred it would reduce significantly the amount of resistance that the army and navy would have to overcome south of Vicksburg. Additionally, it was a first step in joining the Union military forces supposedly heading up from New Orleans, under General Banks and Rear-Admiral Farragut. Grant was receptive to these reasons for the mission, but primarily he felt it would be a test to determine the difficulties of running the gauntlet of batteries. It was test information that he could gain primarily from the navy for future reference in conducting joint operations.

In a letter to Grant, Porter outlined the small, but significant part that the army would play in this operation. Sherman's soldiers had constructed a number of batteries south of the DeSoto canal on the west side of the river nearly opposite Vicksburg. Their mission was to fire on any unidentified vessels heading north towards Vicksburg, or coming south from the city. Porter wanted these soldiers to accomplish two tasks in support of this operation. They were to determine if the *City of Vicksburg* was at the docks of the city, or nearby, at sunset. The second task was to know the distinguishing signal for the attacking Union vessel after it destroyed the Confederate steamer, and started heading south to complete the next phase of its mission.³⁴ The signal for the soldiers was to be three vertical lights. It sounded like a simple coordination task for both services, but deserved the stress that Porter put on it, since at night it could easily lead to a case of fratricide. Along with watching the river, the troops posted at Biggs' plantation (also south of the canal) would afford "easy access to General Banks" in the event he fought his way past the Port Hudson guns.³⁵

Porter chose Colonel Charles R. Ellet of the ram fleet to make the first attempt to run the batteries. Ellet was a man of proven worth and daring. He was a relation of

Brigadier-General Alfred W. Ellet who commanded the Mississippi Marine Brigade. This brigade consisted of army personnel who acted as quasi-marines on the river. It was a self-sufficient combined arms force with its own cavalry, artillery, and combat service support. Politically, Alfred Ellet had managed to get none other than Secretary-of-War Stanton to be his immediate supervisor, and approve his operations on the river. Stanton had the good sense to have him coordinate with Porter when he planned to conduct a mission on the river. This command arrangement would lead to problems for Porter's later operations, but for now, he felt Charles Ellet and the ram, *Queen of the West*, was the best unit for the job. The ram was the best choice because it had greater speed than any other vessel on the water. It could cope with any other boat it encountered, and it did not have to engage the river batteries, just sink the *City of Vicksburg*.³⁶

Porter issued precise details on the specifics of coordination with the army batteries. He even went as far as telling Ellet what actions he should take if his ram became disabled in the attack on the Confederate steamer. "If you become disabled, drift down until abreast of our batteries, and the small army steamer will go to your assistance."³⁷ This would be a true interservice search and rescue mission if the ram did become disabled. Just after Ellet launched, Sherman offered to up-gun Ellet's ram by giving him a 30 pound Parrot cannon. Ellet gladly accepted this "gift" from Sherman. Fortunately, interoperability was not a problem at this stage of warfare, or at least here on the Mississippi, since the army, navy, and now the Marine brigade used these cannons interchangeably. This is not to imply that each unit did not end up making some minor modifications to the cannons so that they could fire from land or upon river vessels.

The meticulous interservice coordination was unnecessary, because the *Queen of the West*, with some difficulty, rammed the Confederate vessel, and ran the batteries. Grant had his preliminary proof that the batteries could be run, and this fact would figure prominently in his future planning. There was also valuable intelligence gained by this first

battery running attempt. Porter had lined up officers along the bank to pinpoint where the Confederate cannons fired from. According to him it was an ingenious defensive arrangement. He relayed to Grant that, "The shots came from banks, gulleys, from railroad depots, from clumps of bushes and from hilltops 200 feet high. A better system of defense was never devised."³⁸ This information would lead to Grant's concurrent attempts to turn Vicksburg from the north as discussed in the last chapter, but he never lost sight of the Mississippi as a possible line of operations.

In this regard, Porter informed Grant that he would run the batteries again with an ironclad, the *Indianola*. Grant approved, and once again, another vessel passed the batteries. For a time, both vessels were successful in interdicting the Confederate supplies, although they never forced the Confederate army to withdraw from their batteries as hoped. Ultimately, they were both sunk or disabled after the Confederates mustered enough naval assets to pursue and engage them in battle. The vessels, even after being sunk or disabled, were of continual concern to Porter and Grant. There was the real possibility of the Confederates raising or repairing them for use against the Union army and navy.

Joint Nonmilitary Operations

Militarily this was one of the many joint concerns of the Union army and naval leadership. Added to these were joint concerns of a nonmilitary nature. The Mississippi, Arkansas, and White Rivers, did not stop being commercial trade routes, even though there was a war going on. Stopping the flow of an illegal cotton trade among the southerners along these rivers was of paramount concern in Grant's department. This translated into Grant and Porter diverting assets that could otherwise be used for tactical combat operations. The message traffic for this type of joint operations took up almost

fifteen percent of the total message traffic between the service component leaders and their subordinate commanders.³⁹

These "fuzzy" nonmilitary operations where the lines of command are not clearly drawn, even on an ad hoc basis, were where the most bickering among services occurred. For example, the Union navy detained a commercial vessel that had a large store of cotton on board. The captain of the commercial vessel stated that he had authority from the army at town "such and such" to carry and trade the cotton. The Union navy captain was then in a quandry on what he must do. The situation eventually would have to come to the attention of Grant and Porter for resolution. Command and control for operations of a nonmilitary nature strained the limited capabilities of Grant's and Porter's staffs. Realistically it often devolved onto the army or naval commander at the scene using his best judgment on what he should do with no official guidance.

At one point, Grant went as far as relieving the army commander at Helena. This officer had tried to enlist one of Porter's vessel commanders to assist his son in buying and transporting cotton. Porter complained to Grant, as he had every right to do. Grant sent a new commander, quartermaster, and provost marshal to replace the corrupt ones at Helena. Grant went on to emphatically state, "No military commander has a right to direct or order a naval vessel on any duty, much less to give aid in private speculation."⁴⁰ Early in February, Porter dispelled all doubts for his vessel captains on procedures for dealing with the commercial trade on the rivers. He invoked Grant's authority, and the Treasury Department's regulations, and plainly put out that from this point forward his captains would "seize all rebel cotton for the Government."⁴¹

Diversion of resources to this nonmilitary mission was an additional problem. Porter had to use at least three vessels of his ten vessels to accomplish this task. Surprisingly, this took up thirty percent of his assets. To be effective these boats patrolled or were stationary between Helena and Vicksburg, and had to stop and search a

voluminous amount of commercial vessels. In conjunction with Porter, Grant had to employ at least a company of soldiers for each city wharf that dealt in a sizable river trade. These soldiers looked for contraband valuable to the enemy, or of commercial value to the enemy.

These noncombat missions were not something new to warfare. The factor that was new was the joint nature of the endeavor on the Mississippi, Arkansas, and White Rivers. When one service operated in an area of responsibility the overall commander could put out a policy statement on how each of his units would deal with the populace. Whether a right or wrong policy, the subordinate tactical commanders had some inkling of what they needed to do to implement it. In the case of a joint operation, with supposedly coequal component commanders, it was difficult, if not impossible to get firm policy guidance early on. This was true except for two instances; first, if the decision is made early for one overall joint force commander to command both services. The second instance was if the joint forces start operations with a firm plan about how they will deal with matters concerning the populace, such as trade. The joint operations on the rivers lacked both of these situations. In actuality though, Porter was intelligent enough to defer to Grant as militarily in "charge", and both commanders could refer to Treasury Department regulations as a guide for their subordinate's actions.⁴²

On February 24th Grant and Porter reached a joint agreement. They referred to this as the Treasury regulations-Agreement. In this document both service commanders reaffirmed the principle that all trade would be under the auspices of Treasury department regulations. It was a joint operations' aspect that both the army and naval component commanders would have to take to heart for future joint operations.

Joint Assault on Grand Gulf

Grant had his eye on the future. By March 29th it looked to him that all his operations north of Vicksburg in the Delta region would end in failure. He was anxious to pursue operations nearer Vicksburg, and possibly link up with Banks and Faragut from the south. He proposed opening a route through the bayous that would link the Mississippi in the vicinity of Milliken's Bend with New Carthage to the south. This would put his forces on the west side of the river below Vicksburg. In a letter to Porter he stated that he had ordered a number of flats to transport his army along the water route if he could open it. Also, he had started improving the wagon trails to New Carthage. Grant felt if he could make this bypass work he could effectively bypass the danger of the Vicksburg batteries against Union vessels. He could use New Carthage as a starting point for attacks against Grand Gulf or Warrenton, whichever seemed most promising.

To support this plan Grant asked Porter for gunboat support. He felt it was absolutely essential that gunboats prevent further fortification of Warrenton or Grand Gulf. He therefore asked the naval commander to put one or two vessels below Vicksburg. In conjunction with controlling the fortifications, Grant thought the gunboats could stop the Confederates from going from one bank of the river to the other. Similarly, the vessels could insure a successful landing of Grant's troops on the east bank of the river, if he decided on that line of operations.⁴³

Here was a case where the value of having another service to provide input to a plan was obvious. Porter did not want to lose other vessel below Vicksburg like the *Indianola* and *Queen of the West*. In a dispatch he asked Grant to recall that once a vessel went below Vicksburg it would not be able to get back. Further, he told the army commander that if he sent a vessel or vessels below that he would make the strongest effort he could. This would preclude another attack on Haynes' Bluff if Grant deemed such an option necessary. Subtly, it was evident that he did not like the sound of this

mission because of the drain on his combat resources. Accordingly he went on to say that the vessels would take some time in preparation for running the batteries, particularly in securing coal and provisions. Finally, he pointed out to Grant that Farragut could easily provide a naval vessel to range below Vicksburg.⁴⁴ All these naval considerations were factors that Grant or his staff, in all likelihood, had not fully considered.

Heeding Porter's advice, he wanted to conduct a joint reconnaissance to refine his plans. Grant, Sherman, and Porter boarded one of the newest ironclads, the *Tuscumbia*. They headed towards Haynes' Bluff where Grant and Sherman desired to see the feasibility of once again landing a large force for an attack on Vicksburg. Once arriving at the bluff, the vessel got so close that it received enemy fire and had to return fire. This was dangerous, but it did give the commanders some feel for what their soldiers and sailors would encounter in assaulting the bluff. The biggest impact was on Grant, who told Porter in a correspondence "that an attack on Hayne's Bluff, would be attended with immense sacrifice of life, if not with defeat."⁴⁵ In a postscript Grant added that it would be advisable for Porter to get all small boats that were available from his branch of service from Memphis, for a possible army crossing operation below Vicksburg.

This postscript indicated to Porter that Grant had acknowledged his naval advice. But, after carefully weighing the alternatives, Grant had decided that the danger of losing vessels was well worth the risk of operating below Vicksburg. He emphatically stated to the naval commander that he felt one army corps and two gunboats could hold Grand Gulf until he got the whole army down. Preparation of six army steamboats to run the blockade was in progress. Grant reiterated his request that Porter run the blockade as soon as possible. To cement this request he arranged a "face to face" meeting with Porter the following day.

Overcoming his initial reservations after discussions with Grant, Porter started to prepare a convoy to pass the batteries. The composition of the convoy illustrated that

Porter had almost divorced himself of any extensive operations north of the river, except patrol and escort duty. It would consist of six ironclads, naturally his most formidable vessels, and one gunboat with a captured steamer lashed to her side.⁴⁶ Three army steamboats were also in the convoy. While his naval component commander was in the process of putting together this joint convoy, Grant moved army forces down for consolidation around New Carthage. Steadily, the preponderance of army assets assembled on the west side of the river below Vicksburg. Grant's plans were now about to come to fruition, and alot depended on the joint convoy getting past the batteries of Vicksburg.

Porter launched the convoy during the night of April 16th, with vessels departing at intervals of two minutes. The ironclads and one gunboat were in the lead followed by the three army transports, with rear security provided by an ironclad. Due to the increased activity of the joint forces, the enemy detected the passage, and lit tremendous fires on the west bank to silhouette the convoy on the water. Porter had all vessels pile cotton on their decks to protect the boilers. He had the army personnel practice using cotton to plug any bullet holes below decks to prevent water from coming in, and sinking the vessel. The ironclads went first to get close to the shore and suppress the batteries. The army transport steamboats hugged the west bank as near as possible to make it more difficult for the Confederate batteries to range on them. The convoy got past the batteries with limited damage, except to the *Henry Clay*, an army steamboat which was sunk. Fortunately, all the crew and army personel on board escaped the sinking vessel and made it to shore. Demonstrating the perceived difficulty of getting past the batteries the pilots and captains of some of the steamboats refused to run them. Army personnel from Missouri and Illinois volunteered to man these steamboats.⁴⁷ After clearing the batteries the vessels anchored at Carthage where the advanced divisions under McClelland were.⁴⁸

Naval operations against Grand Gulf showed the indispensable part that the navy played in Grant's joint plans. Not sitting on his laurels after getting a large convoy past the Vicksburg batteries, Porter went immediately to work. Porter conducted a reconnaissance of Grand Gulf in his flagship *Benton*. He reported back to McClernand that the Confederates had built extensive works, and with more time would make the place impregnable. Porter indicated that he was not ready to conduct a general attack on the fortifications, but would the next day after some planning and preparation. Also, he wanted McClernand to provide some units to hold the fortifications if his gunboats and ironclads forced their evacuation. Further, he offered the corps commander the use of the *Price*, the *Forest Queen*, and a big barge for the transport of these units. Porter hinted at what assets the army should bring when he also told McClernand that the *Forest Queen* was an excellent artillery transport. Finally he added, "this is a case where dash is worth everything."⁴⁹ It was obvious that Porter was thoroughly in tune with Grant's intent and strived to maintain the momentum of the offensive movement.

Porter made the attack on Grand Gulf with his entire strength of eight vessels on 29 April, commencing at 0800. Five of the ironclads had companies of the 58th Ohio Infantry on-board in case there was an opportunity to land soldiers to hold the fortifications that the Confederates might evacuate. General Osterhaus, under McClernand's direction, had ten regiments embarked and waiting in steamboats for the success of the navy. The attack went on for nearly five and a half hours without silencing a single gun of the enemy.⁵⁰ This is what Grant stated in his memoirs, although not entirely correct, because the ironclads fought fiercely with Forts Wade and Coburn, and did knock out some Confederate cannons. It did show Grant's opinion of the considerable strength of the Confederate's batteries. Grant who was nearby on the tug *Ivy* during the naval attack signalled Porter that he wanted to come on board Porter's flag-ship. At this meeting Grant commended the admiral on his efforts, and pointed out the futility of a

frontal attack on Grand Gulf. Grant told Porter of an alternate plan to land troops at a point north of Rodney. In his memoirs Grant recounts, "Porter, as was always the case with him, not only acquiesced in the plan, but volunteered to use his entire fleet as transports. I intended to make this request, but he anticipated me."⁵¹ Ultimately Grant decided on Bruinsburg as a landing site; nevertheless, the navy would be instrumental in putting Grant's army on the east side of the river below Vicksburg for decisive combat operations.

To facilitate the Grand Gulf attack, and landing of troops below Vicksburg, another joint tactical combat operation was in the works. For a diversion, Grant had detailed Sherman to conduct another limited attack on Drumgould's Bluff while he maneuvered below Vicksburg. General F. P. Blair's division and ironclads and gunboats under LtCdr K. R. Breese executed the assault on the bluffs. Breese led with the ironclads in conjunction with troops on the land-side. The lead ironclad, the only vessel under any real fire, received a number of hits. Breese in his report thought the effort was successful in diverting Confederate troops from Grand Gulf. He saw large bodies of Confederate troops moving towards him, away from the direction of Grand Gulf.⁵² Porter, though, when hearing of Breese's efforts, thought that his subordinate commander had done more than was necessary in the joint effort.⁵³ Specifically, Porter thought Breese was too aggressive in a joint mission that was only a supporting attack. Grant and Sherman thought otherwise, and were highly laudatory of the navy's actions in supporting this feint to the north of the main effort. This was another example of the increased maneuver options available to a commander operating in a joint environment.

The Siege of Vicksburg

Joint cooperation did not stop as Generals McClelland, McPherson, and Sherman (after came after the other corps) ferried across to Bruinsburg, and started their land

operations on the east side of Vicksburg. Contrary to what some people might think, Grant did not completely cut his supply line when he crossed to the east side of the Mississippi River. The navy still had to maintain security with river patrols from Memphis to Bruinsburg, because Grant still received some supplies via the river at Bruinsburg. The second function of the navy in support of the army's overland operations was to maintain security for the crossing from west bank of the river to the east bank.⁵⁴ This was necessary because there still was the danger of the Confederates sending a ram or other vessel to interdict the crossing of some supplies from the west to east bank of the river.

Furthermore, Porter did not want to send any vessels up the Big Black River as per Grant's request. This was due to two reasons. One reason was because gunboats would be vulnerable going up this relatively narrow river. The Confederates would be able to mass against a naval force, whereas the gunboats would be unable too against the Confederates. The second reason was the question of the gunboats even being able to make it up the river with their six foot draft. The navy compromised though. To assist in preventing the Confederates from conducting an amphibious landing on the Louisiana shore, and cutting Grant's line-of-supply, Grant asked Commander Owen to change the vessels positioning. *Louisville* would seal the mouth of the Big Black into the Mississippi to Confederate operations. The *Carondelet* would remain off Grand Gulf to guard the army's depots, and escort the transports ferrying troops across the river.⁵⁵

As the army started their march towards Jackson, Mississippi, and then started back east to Vicksburg Porter had divided his fleet into two divisions to more efficiently support joint operations. One was above Vicksburg and the other was below. Porter himself and some of his vessels had linked up with Admiral Farragut and tried to interdict Confederate supply lines on the Red River. This was an effort to more thoroughly prevent the flow of food from Texas to the soldiers garrisoned in Vicksburg.

The other area of joint support was in the firepower realm. As Grant tightened the encirclement on the land side of Vicksburg, Porter could bombard Vicksburg from the river side. Porter had the mortar squadron positioned forward as early as the 13th of February.⁵⁶ This squadron consisted of 38 thirteen inch mortars that had tremendous destructive power. They had participated in the feint with Sherman, and on the 22th of May started lobbing shells into Vicksburg.

Admiral Porter's great fleet of gunboats and mortar boats in front and south of the city, kept up a continuous fire of heavy guns and mortars, (day and night) and the city was surrounded on all sides by a wall of fire, and the noise of the guns and shrieking shot and shell from a hundred or more heavy guns on the river, and 31 batteries around the city was deafening.⁵⁷

Additionally, every time Grant tried to conduct an assault against the Vicksburg defenses the navy mortars and gunboats participated on the river side. Grant's corps commanders both above and below Vicksburg maintained a communications link between their forces and the navy. When a land assault was about to begin the mortars would increase their rate of fire. The gunboats on the other hand would sometimes steam closer to the Confederate batteries to intimidate them, and try to position for a better angle of fire. The most notable of these occasions illustrating the aggressive support the navy gave to joint operations was when the *Cincinnati* attacked Fort Hill, the principle battery above Vicksburg. This attack was in coordination the other ironclads making an attack below Vicksburg. "The fire from the upper battery was too much for the *Cincinnati*, which sank not far from the shore, losing a considerable number of her crew."⁵⁸ In addition to this type of aggressive behavior in support of joint operations, when the army needed heavier cannons to conduct the siege the navy gladly obliged by providing thirteen heavy cannons.⁵⁹ The navy even went as far as manning them for the army. A unique contribution of the navy to army operations, which might never be seen again. One historian aptly describes the many other functions the navy performed during the siege,

essentially while the army got all the credit for the success. "At the same time [of the bombardment] the squadron was engaged in the duty of patrolling the rivers, keeping open lines of communication, conveying transports, and cooperating with troops in beating off the enemy at detached points."⁶⁰

The capitulation of Vicksburg on the 4th of July 1863, saw the naval forces linked with Grant's forces both north and south of city at the shoreline of the Mississippi. This was an appropriate endpoint to joint operations in the Vicksburg campaign, since Vicksburg was certainly "key" to control of the Mississippi. Probably unknown to Grant and Porter at the time, they had set a new precedent in U. S. joint warfare.

Joint operations on the Mississippi, Arkansas, and White Rivers illustrated the full range of capabilities one service could bring to the assistance of the other. The joint attack on "Arkansas Post" had some joint command and control difficulties at the start of the expedition. This was mainly due to the inexperience of the "political general" McClelland in the conduct of joint operations. Sherman and Porter, who had extensive joint experience, continually coached McClelland on the fine points of joint command and control. McClelland came to realize the importance of the navy to his operations for security, intelligence preparation of the battlefield, and firepower. The capture of "Arkansas Post" was primarily the result of the massed naval gunfire. Joint noncombative duties such as regulating the trade of cotton on the rivers came to be a big consideration for both Grant and Porter. Passing the batteries of Vicksburg was vital to Grant's future plans. It was Porter and his joint army and navy convoy that showed Grant the feasibility of operating below Vicksburg. The navy initiated the joint attacks in support of Grant's overall intent to conduct offensive movements below Vicksburg. This attack had companies of soldiers on-board the gunboats in case the Confederate evacuated the fortifications. The joint attack on Grand Gulf was a failure, but with the navy controlling the river, Grant could get across to the east bank further south with his

soldiers. The navy provided security for river crossing operations. Additionally, contrary to popular opinion, the navy still provided some security to Grant's supply line along the Mississippi even when his soldiers crossed to the east side of the river. Finally, the siege of Vicksburg was a joint operation in terms of the extensive part that the navy played in bombardment of Vicksburg, and the combat service support capabilities for the army that Grant came to depend on.

CHAPTER 5

JOINT OPERATIONS IN THE CAMPAIGN TO CAPTURE VICKSBURG ANALYSIS AND CONCLUSIONS

It is done, and the day of our nation's birth is consecrated and baptized anew in a victory won by the United Army and Navy of our country. God grant that the harmony and mutual respect that exist between our respective commanders, and shared by all the true men of the joint service, may continue forever, and serve to elevate our national character, threatened with shipwreck.¹

Correspondence from General William T. Sherman to Admiral David D. Porter from Hdqrs. Expeditionary Army, Black River, July 4, 1863

Today's U. S. Military's Joint Pub 1 succinctly describes the importance of joint warfare when it states, "Joint warfare is essential to victory."² This is the joint capstone manual for our military today, and it presents a statement that most present day military officers, and politicians, would certainly agree with. This was not the case at the start of the Civil War. Chaos and confusion existed to a large degree as the politicians and military leaders tried to put together a land and naval force. There was not much thought about the subtleties of the army and navy working together. Besides, once the mobilization of a huge army was complete, the leadership felt that one great Napoleonic victory would end the rebellion. Consequently, a body of thought about how to conduct joint warfare did not emerge initially, because no one thought it would be necessary.

Even if joint warfare was necessary, the military could pattern its joint operations after what General Winfield Scott did during the Mexican War. In that war the "blue water" navy served as a transport for army forces, so the army could flank or envelop the Mexican's army at Vera Cruz. The coastline could be a clear boundary of where one

service's responsibility ended and the other's began. This was an attitude that permeated from the highest politician to the lowliest soldier.

Joint warfare on the Western Rivers, and in particular, joint tactical operations to capture Vicksburg, made this concept more complicated. There was no clear delineation of responsibilities between services. For example, the "fresh water" navy might be the main attack for an army operation, with the land component supporting. Conversely, the army might be the main attack with the navy supporting. The effectiveness of a joint plan would hinge on one service's effectiveness in carrying out its piece of the plan. Thus, joint command and control, maneuver, intelligence preparation of the battlefield, and logistics were all facets of a joint operation that the leadership had to integrate between services. The fundamental implementation of complicated joint concepts under these circumstances would be the foundation for Union victory or defeat. Out of military necessity, it was here that joint doctrine started to grow and develop.

Unfortunately, there was no mold that the leadership in Washington, or the operational or tactical commanders could apply to the situation. Administratively and operationally the joint force's success would hinge on the capabilities of the service's collective leadership to discard a parochial view of their own service and think jointly. For example, at the national command level this meant that the Navy Secretary, Gideon Welles, initially subordinated his naval forces to the army operational commander. Although, he was not keen on joint operations. Welles applied a common-sense approach, stating that since the army had the preponderance of forces, and knew the area-of-operations, it was better able to direct joint operations. Welles still managed the naval officers who went to the Western Theater. In this way he could match the capabilities of the naval officer to the stage of development of the Mississippi Squadron. Two examples of this were Captain John Rodgers, the efficient organizer who essentially started

development of the fleet; versus Captain Andrew H. Foote, who was more aggressive than Rodgers, and could make better use of the vessels in joint operations.

By the same token the army operational commander was heavily dependent on the advice of the navy. The adequate capabilities of the various types of gunboats, ironclads, and mortars to support the operational commanders were the direct result of a naval officer contracting for, or acquiring these vessels. It was normally, a naval officer who knew what the army needed in terms of firepower, survivability, and maneuverability. Accordingly, all the army department commanders tried to provide the navy with the infrastructure it needed to grow and mature as a riverine force. Moreover, each department commander was astute enough to allow the navy officers to control the joint forces when they were afloat on the river. In almost all joint convoys the department commander would give the naval component commander the latitude to determine the landing site. This was one of the few cases in U.S. warfare where this high degree of trust in the capabilities of one service's leadership for another's existed.

Even though some politicians, and the majority of military officers, were ready to shed their parochialism, there was one glaringly obvious problem. Washington did not institute a command and control system whereby joint operations could be effectively carried out. The navy was subordinate to the army up to October of 1862. During this time the naval component commander followed the orders of the operational army commander who located his headquarters at St. Louis. The Department of Missouri marked the confluence of a large number of rivers, and was also where the fleet had their major naval yard. So it made sense that the naval commander would report to this army commander in the initial build-up of the fleet. But after active joint operations started, this army commander tended to husband this naval resource. At certain times, this was at the expense of other district or department commanders who might have more of a need of the navy in their areas of responsibility. It also created a situation where the department

commander at St. Louis might send one vessel here, and one vessel there, piecemealing the navy to satisfy adjacent commanders.

The joint command arrangement was only a little better after October 1862 when the navy commander had equal authority with the army commander for joint operations after October 1862. In effect, it left a leadership void as to who would be actually in charge of joint operations. The political and military leadership in Washington would not, or could not, step in to rectify the situation. The direct result was inefficient coordination, synchronization, and administrative/logistic support. The strategic leadership should not have let this nebulous joint command and control arrangement persist. In today's military we have the Goldwater-Nickels Act which designates that one commander of either service has to have overall command responsibility. This unity-of-command strives to avoid the piecemealing of resources, and concentrates the resources at the critical place on the battlefield.

The success of this amorphous joint command relationship depended on the personalities and capabilities of the senior army and navy leadership. A danger in coequal service leadership was that one service might try to be the dominant partner. This dominant service could pursue objectives that were not important to the overall campaign, or refuse to attack objectives that were. Welles, as stated previously, solved this problem by assigning the naval commander as to his perceived abilities in developing the fleet, or conducting joint operation in close coordination with the army. Welles took into account the naval officers' temperament, abilities, and former joint experience.

This worked for the navy, but the army did not consider how the army officer would work in conjunction with a naval force. The army would just have to hope that the operational army commander would not be so hard-headed as to jeopardize an important relationship with the navy. Fortunately, none of the army department commanders turned out to be this way. More than likely they saw the critically of the navy in the success of

their operations, and the navy was agreeable to major joint objectives. Most officers today have to serve in a joint assignment; thus providing some exposure to the capabilities of another service. The type of exposure that will serve them in good stead if they have to work with another service in a leadership role.

It was at the division level and below where joint operations ran into snags. Army commanders who had never worked with the navy before had difficulty in accepting naval advice for the conduct of joint operations on the Mississippi or adjacent rivers. The new army commanders at the tactical level came to find out that even the simplest things were difficult when there was no written guidance, or no chance to practice operations with another service. This is where Grant was so successful. First, he was open-minded enough to listen to naval advice as a district commander. Secondly, he practiced with the navy from the earliest inception of the Mississippi squadron. Just as repetition is the key to training today, the same held true with Grant and the "fresh-water" navy. However, he did not train like the simulated joint training of today, but with actual joint expeditions against the enemy. Grant was the one true constant in joint operations from Belmont through Vicksburg. For someone trying to learn from these joint operations two things become apparent. Training, or actual operations, which form habitual relationships between soldiers and sailors can increase the proficiency of the joint force. Additionally, the leadership in either service must be receptive to the other service's ideas about joint operations. Moreover, if the joint leadership is competent, the retention of this leadership for critical joint operations should be of primary importance for operational or strategic leaders.

These statements do not deny that there was a special chemistry between Grant, Sherman, and Porter in joint operations. There certainly was. The secret for them was to use both services to the fullest extent possible. If this meant taking cannons off ships to give to the army, so be it. If it meant giving coal to the navy from army stocks to maintain

the momentum of the attack, that was all right also. This does not imply there was never disagreement among the services about how events should proceed. On numerous occasions they did have disagreements. Their disagreements centered on the mechanics of joint operations, or where they should attack next. But the key was that they never diverged from the ultimate intent of taking Vicksburg, and clearing the Mississippi. It could be of interest to speculate how harmonious their relationship would have been had they lacked this common goal. Especially so, since there probably would not have been any resolution from Washington. The fact is, for joint forces to be successful, each service's leader has to internalize the intent of the overall joint commander. If one service's leader does not feel comfortable with this, Washington or a higher level commander, should replace him with someone who does.

With this good leadership, the Union navy gave the army operational commander the ability to extend his battlefield in time and space. The army commander could set the terms for the close fight by striking the Confederates throughout the area of operations.³ The navy afforded the Union operational commander the mobility to get into the Confederates' decision cycle before they expected the Union to act. In deep operations the Union navy could isolate enemy forces by attacking or cutting railroad networks in support of the operational commander's plan. The navy always wants to have a lot of cannons on their vessels, and in terms of the gunboats and ironclads they outdid themselves. One gunboat had the capability of increasing one standard army brigade's firepower by a factor of four. Not only that, but Union gunboats also had a psychological effect on the Confederate populace at the major city landing sites. These gigantic iron monsters demonstrated the technological might of the Union, and showed how easily a Union force could operate in the interior of the Confederacy. Gunboats had almost the same operational and psychological effect that the aircraft and tank would have at the

concluding stages of War World I. The gunboats indirectly reduced the Confederate's will to fight.

Deep reconnaissance and intelligence operations for the army operational commander were critical factors for planning. Gunboats were the first to provide advanced intelligence about enemy concentrations at Belmont, Forts Henry and Donelson, Yazoo Pass, and the Deer Creek passages. Enemy dispositions, capabilities, and route reconnaissance were all missions that the naval component could perform for the operational commander. The navy became in many instances the army operational commander's eyes and ears for formulating his courses-of-action. This was a function normally performed by the cavalry. The lack of horses and terrible terrain conditions precluded the cavalry from accomplishing this. Once again, the operational commander could use his naval component to overcome an operational deficiency in his own forces. However, one deficiency in the naval reconnaissance was its inability to provide accurate intelligent on the Confederate River Defense. In fact, it was the initial navy report about this fleet (made for propaganda purposes or otherwise) that stultified some of the aggressiveness of the joint operations. Maybe the Mississippi Squadron should have had as one of their joint responsibilities the "Mahanian" concept of gearing their efforts towards destroying the enemy's fleet. They did this in a manner of speaking at Memphis, but the Confederates still had enclaves where they built vessels; thus, the uneasiness exhibited by the army operational commander and the Washington administration about the Confederate naval threat could never be put to rest.

The use of the gunboats and ironclads in joint combat support and combat service support roles was adequate, but was not as effective as it should have been. The collective operational army or navy leadership should have had the foresight to task organize in the combat support and combat service support arenas. The creation of a waterborne organization for "torpedo" clearing would have been of an immense help in

maintaining the mobility of the fleet. Instead, the army and navy relied on gunboats to fulfill this mission, which resulted in the loss of two vessels to mines. These gunboats had been instrumental in protecting the joint convoys, but when sunk, a large part of the navy's combat power went to the bottom of the river.

A more innovative approach would have been to use steamboats, not fitted out for combat operations, to do the clearing, while the gunboats were at musket stand-off distance protecting the steamboat doing the clearing. Another alternative was to make the venture more joint by landing a company to provide protection as the clearing operation went on. This was similar to actions taken later on in the joint campaigns. For example, an infantry company on a steamboat could serve as a ready reaction force in the joint convoy if the vessels received shore-fire. The loss of combat power resulting from two gunboat sinkings would have been a serious problem if the Confederates had possessed a credible river defense fleet. This inflexibility in planning was the natural outgrowth of a service conducting an operation completely alien to its previous missions, and learning "on the job." One reason why the Union joint forces were successful was that instead of just sitting back and worrying about the torpedoes, they aggressively took actions to clear them. Whether right or wrong, they were on the offensive, and would learn from their mistakes.

In the joint logistics arena, the Vicksburg campaign brought out some interesting joint concepts. The joint forces used a centrally located depot. Logistics staff officers were able to centrally locate and disperse critical items of supply to both army and navy forces. This was probably more because of geography than design, but does highlight a few interesting factors for future war. A joint depot if managed properly can economize on logistics operations. There were cases where the navy needed a cannon, and instead of ordering it from an arsenal in Pennsylvania or New York, the army was able to provide it from St. Louis to Cairo. Another example occurred when the army needed a part for one

of its steamboats and the navy provided it because there was one on hand for the gunboats at Cairo. Additionally, the depot and navy yard communicated with the joint force as it conducted joint operations. They had the capability to prioritize what units would get what supplies, according to the criticality of the joint unit's mission. This would be very difficult to do with widely dispersed depots. In a combat situation the rapidity with which supplies reach the front line can be the difference between success and failure. Not surprisingly, in nine times out of ten during the Vicksburg campaign the waterborne supplies reached the front lines in time.

The failure in the joint logistics system occurred when gunboats, ironclads, and steamboats had to return to the naval yard for repairs. This could mean that the army operational commander would not have a valuable naval asset during the critical part of a battle. A solution to this would be like the one taken during riverine operations in the Vietnam war. There the solution was to make one vessel a repair vessel providing maintenance facilities for naval and ground units.⁴ In this way, the repair of a vessel might occur at a forward location, thus allowing the vessel to get back into the action as quickly as possible. However, the fleet was successful without this technique, because in most cases it had enough vessels and combat power to carry out the joint mission, even with the loss of a vessel. This mirrors the present American military mindset of bringing overwhelming combat power to the battlefield. There was combat power not only to overwhelm the enemy, but also to have enough in case a vessel breaks.

Joint tactical operations showed how innovative a soldier or sailor could be when his life, or his friends' lives, were on the line. They approached joint cooperation in a pragmatic way. Do whatever was necessary to ensure survivability of the joint force. This could mean using land maneuver techniques applied to a waterborne convoy. The result was gunboats situated to provide a reconnaissance element, forward security element, flank security, and a rear security element. Moreover, a company of soldiers would

provide security on each of the steamboats. The sailors would assist themselves and their fellow soldiers on the decks of these vessels by erecting a protective row of cotton bales, or whatever would deflect a bullet. Steamboats accompanying the rear-guard would follow up the convoy.

Grant, Sherman, and Porter established written guidelines and orders on the conduct of these joint convoys. These were measures necessary because of the potential vulnerability and risk involved in moving a division or brigade on the water. The convoys were successful because the collective army and navy leadership followed the joint convoy guidance very closely. If an inexperienced general or colonel tried to conduct a joint convoy without following these guidelines the navy or the leader's subordinates would get him to conform to the guidelines. This is one instance where Grant, Sherman, and Porter actually wrote out how they wanted to conduct joint operations. Therefore, joint convoys were successful because they followed a proven joint convoy procedure that new leadership, soldiers, or sailors could not disregard. It was a period of rapid development of joint techniques, but those techniques that were successful were quickly categorized and remembered.

The reaction drill on the water to enemy fire, and that for landing operations, were also quickly categorized. If shore-fire against a joint convoy was intense, Sherman designated a standard way to go about attacking it. The ironclads would fix the enemy force with cannon fire. The steamboats covered by the gunboats landed soldiers above and below the enemy position so they could maneuver on it, ultimately destroying the Confederate position. Here once again is a purely land maneuver technique applied to a joint waterborne operation. It was an example of soldiers applying their land experience for survivability against the enemy along the river.

Vessel to shore landing operations were not true amphibious assaults representative of Gallopi or World War II; but did have some of the same joint planning

considerations. Specifically, these were the choice of a landing site, security for the landing, and security for the beachhead. Most of these Civil War joint amphibious raids were dependent on these three factors. The critical first part of the operation was that the navy would try to find an unopposed landing site, as close to the army's objective area as possible. In the majority of operations along the Mississippi the navy was able to do this for the army. This even included areas above and below the heavily defended Vicksburg area. It also went back to the initial acquisition of vessels with drafts as shallow as possible to support joint operations in every area of the river, including landings on the shore. For security, the ironclads and gunboats were ready to provide preparation fire and covering fire if necessary. Grant, Sherman, or the division commander involved would detail one brigade to initially debark and immediately provide security. A brigade usually landed as a total unit, not piecemealed as vessels came to the landing site. This allowed the unit to immediately start its security mission. Another unit would then debark, and pass through the unit providing landing site security, with a mission to expand and then secure the beachhead. The success of this operation depended on the soldiers' traveling light, and on their ability to rapidly put their necessary support on the ground so they could start operations quickly. The Confederates never were able to seriously contest this quick deployment of combat power.

Even before this rapid projection of combat power occurred, the gunboats had done a detailed reconnaissance of the enemy in the objective area. It entailed a reconnaissance that gave the tactical commander the means of determining the combat power he would need to counter the Confederates. It also gave him the capability to plan how his joint force would operate. This plan would be either a synchronized joint attack, or one service assuming the main or supporting attack role. Alternatively, the commander had the choice to use the army or navy in a multitude of other tactical operations to support the overall joint mission.

It was at the tactical level of war that most of the joint operations development occurred during the Vicksburg Campaign. Grant, Porter, and Sherman devised joint methods that worked against the Confederates. These leaders were able to successfully channel the energy of aggressive soldiers and sailors to accomplish one primary strategic objective--capturing Vicksburg and clearing the Mississippi.

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Chapter 2

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⁴⁰Robert Underwood Johnson and Clarence Clough Buel, editors, Battles and Leaders of the Civil War Vol. I (Secaucus: Castle, 1887), 362. (Hereafter cited as B&L) Detailed composition and commanders of vessels available for the attack on Fort Henry and Donelson: Flag-officer A. H. Foote, commanding. *First Division*: Flagship *Cincinnati*, Commander R. N. Stembel: 6 32-pounders, 3 8-inch, 4 rifled army 42-pounders, 1 12-pounder boat howitzer; *Essex*, Commander W. D. Porter: 1 32-pounder, 3 11-inch, 1 10-inch, 1 12-pounder boat howitzer; *Carondelet*, Commander H. Walke (same armament as the *Cincinnati*); *St. Louis*, Lieut.-Commanding L. Paulding: 7 32-pounders, 2 8-inch, 4 rifled 42-pounders, 1 rifled boat howitzer. *Second Division*: Lieut. S. L. Phelps, commanding: *Conestoga*, Lieut.-Commanding S. L. Phelps: 4 32-pounders; *Tyler*, Lieut.-Commanding William Gwinn: 1 32-pounder, 6 8-inch; *Lexington*, Lieut.-Commanding J. W. Shirk: 2 32-pounders, 4 8-inch.

⁴¹Ibid., 429.

⁴²Foote to Halleck, February 7, 1862, in ORA, Series I, Vol. 7, Part 1, 123.

⁴³Ibid.

⁴⁴McClelland to Grant, February 10, 1862, in ORA, Series I, Vol. 7, Part 1, 130.

⁴⁵A. S. Johnston to Secretary Benjamin, February 8, 1862, in ORA, Series I, Vol. 7, Part 1, 131.

⁴⁶Grant to Halleck, February 6, 1862, in ORA, Series I, Vol. 7, Part 1, 124.

⁴⁷Phelps to Foote, February 11, 1862, in ORN, Series I, Vol. 22, Part 1, 570-571.

⁴⁸Foote to Welles, February 15, 1862, in ORN, Series I, Vol. 22, Part 1, 585.

⁴⁹Gilmer to MacKall, February 10, 1862, in ORN, Series I, Vol. 22, Part 1, 608.

⁵⁰Gwin to Foote, February 23, 1862, in ORA, Series I, Vol. 7, Part 1, 421-422.

⁵¹Ibid., 422.

⁵²James M. McPherson, Battle Cry of Freedom (New York: Ballantine Books, 1988), 415.

⁵³Pennock to Wise, March 27, 1862, in ORN, Series I, Vol. 22, Part 1, 702.

⁵⁴Pope to Halleck, March 27, 1862, in ORN, Series I, Vol. 22, Part 1, 703.

⁵⁵Halleck to Foote, March 28, 1862 in ORN, Series I, Vol. 22, Part 1, 703.

⁵⁶Catton, 323.

Chapter 3

¹Sherman to Rawlins, March 29, 1863, in ORA, Ser. I, Vol. 24, Part 1, 436.

²Edwin Cole Bearss, The Campaign for Vicksburg, Vol. I (Dayton: Morningside, 1985), 479.

³Porter to Sherman, November 12, 1862, in ORN, Ser I, Vol. 23, 479.

⁴Order of Acting Rear Admiral Porter, U.S. Navy, to Captain Walke, U.S. Navy, regarding requests from army officers for cooperation, November 28, 1862, in ORN, Ser. I, Vol. 23, 512.

⁵Porter to Walke and Selfridge, November 28, 1862, in ORN, Ser. I, Vol. 23, 512-514.

⁶Halleck to Grant, December 7, 1862, in ORN, Ser. I, Vol. 23, 538.

⁷David Dixon Porter, Admiral, U.S. Navy, Incidents and Anecdotes of the Civil War (New York: D. Appleton and Company, 1891), 127.

⁸William Tecumseh Sherman, Memoirs of General W. T. Sherman (New York: Literary Classics of the States, Inc., 1990), 302.

⁹Union Vessels in the Vicksburg Operations, in Robert Underwood Johnson and Clarence Clough Buel, eds., Battles and Leaders of the Civil War, Vol. III (New Jersey: Castle, 1887), 581. (Hereafter cited as B&L). This navy divisional reconnaissance detachment had formidable capabilities. The following is a listing of the vessel's commanders and their commands.

Eads Ironclads: *Cairo* commanded by Lieutenant Commander T. O. Selfridge, 13 guns, and 1 howitzer. *Baron DeKalb* commanded by Lieutenant Commander J. G. Walker, 13 guns. *Pittsburg* commanded by Acting Volunteer Lieutenant W. R. Hoel, 13 guns.

Tinclads: *Signal* commanded by Acting Volunteer Lieutenant C. Dominy, 4 howitzers, and the *Marmora* commanded by Acting Volunteer Lieutenant Robert Getty, 8 howitzers.

¹⁰David Dixon Porter, The Naval History of the Civil War (New Jersey: Castle, 1984), 284.

¹¹Walke to Porter, December 1, 1862, in ORN, Ser. I, Vol. 23, 521.

¹²Porter to Welles, *Ibid*, 545.

¹³Bearss Vol. I, 227-229.

- ¹⁴Sherman to Porter, November 16, 1862, in ORN, Ser. I, Vol. 23, 487.
- ¹⁵Special orders of Major-General Sherman, for expedition up Yazoo River, December 25, 1862, in ORN, Ser. I, Vol. 23, 563.
- ¹⁶Porter to Sherman, December 25, 1862, in ORN, Ser. I, Vol. 23, 564.
- ¹⁷Sherman's Special Order No. 34, December 25, 1862, in ORN, Ser. I, Vol. 23, 563.
- ¹⁸Paddy Griffith, Battle in the Civil War (England: Fieldbooks, 1986), 4.
- ¹⁹Sherman to J. H. Hammond, December 25, 1862, in ORN, Ser. I, Vol. 23, 563.
- ²⁰Porter to Sherman, December 21, 1862, in ORN, Ser. I, Vol. 23, 561.
- ²¹Shirk to Walke, November 27, 1862, in ORN, Ser. I, Vol. 23, 510.
- ²²Selfridge to Porter, November 15, 1862, in ORN, Ser. I, Vol. 23, 486. See also Sherman's General Order No. 8 and Eddy to Bishop, December 18, 1862, in ORN, Ser. I, Vol. 23, 557, 630.
- ²³Cooper to Bragg, November 19, 1862, in ORN, Ser. I, Vol. 23, 493.
- ²⁴Bearss Vol. I, 164.
- ²⁵ORA, Ser. I, Vol. 27, pt. I, 651.
- ²⁶Sherman, 318.
- ²⁷ORN, Ser. I, Vol. 23, 581, 583, 584, 591-92.
- ²⁸*Ibid.*, 584-585.
- ²⁹*Ibid.*, 588.
- ³⁰*Ibid.*, 596-597; ORA, Ser. I, Vol. XVII, pt. 1, 609.
- ³¹ORA, Series I, Vol. XVII, Part 1, 447.
- ³²Bearss, 431.
- ³³Frank Leslie's Illustrated Weekly, March 28, 1863, p. 14, in Bearss, 140.
- ³⁴ORA, Ser. I, Vol. XXIV, pt. III, 86.

³⁵Grant, Vol. I, 370-375.

³⁶ORA, Ser. I, Vol. 24, pt. I, 371.

³⁷ORN, Ser. I, Vol. 23, 709.

³⁸ORN, Ser. I, Vol. 24, 249.

³⁹ORA, Ser. I, Vol., 24, pt. III, 36.

⁴⁰Smith to Porter, February 16, 1863, in ORN, Ser. I, Vol., 24, 245-249. The vessels were gunboats: *Rattler*, *Romeo*, *Forest Queen*, *Signal*, *Cricket*; and the ironclad *Chillicothe*.

⁴¹Porter to Welles, March 12, 1863, in ORN, Ser. I., Vol. 24, 265.

⁴²ORN, Ser. I, Vol. 24, 252.

⁴³*Ibid.*, 245.

⁴⁴Wilson to Grant, March 16, 1863, in ORA, Ser. I., Vol. 24, Part 1, 384.

⁴⁵*Ibid.*, 260-261.

⁴⁶*Ibid.*, 262.

⁴⁷Smith to Porter, March 3, 1863, in ORN, Ser. I., Vol. 24, 263.

⁴⁸Wilson to Porter, March 16, 1863, in ORA, Ser. I., Vol. 24, Part 1, 384-385. Wilson gives a good description of the streams the army and navy had to navigate. The width of the Yazoo Pass waterway is from 60 to 80 feet clear, and from 18 to 30 feet deep at the stage of water indicated. The distance from Moon Lake to the Coldwater is about fifteen miles.

The Coldwater from its junction with Yazoo Pass is considerable river, from 100 to 130 feet wide, running through a dense wilderness all the way.

The Tallahatchie is a stream of very similar nature, from 130 to 180 feet wide, and from 30 miles below the mouth of the Coldwater affords fine navigation for boats 250 feet long.

There are not more than fifty plantations between the entrance to Yazoo Pass and the mouth of the Tallahatchee, a distance of nearly 200 miles.

⁴⁹Smith to Porter, March 3, 1863, in ORN, Ser. I, Vol. 24, 263.

⁵⁰Quigby to McPherson, March 9, 1863, in ORA, Ser. I, Vol. 24, pt. I, 404.

⁵¹ORN, Ser. I, Vol. 24, 267.

⁵²Ibid., 246, 266.

⁵³ORA, Ser. I, Vol. 24, pt. I, 379.

⁵⁴Ibid.

⁵⁵ORA, Series I, Vol. XXIV, pt. I, 385.

⁵⁶Admiral David D. Porter, U. S. Navy, The Naval History of the Civil War (Secaucus: Castle, 1984), 303.

⁵⁷Sherman, 330.

⁵⁸Ibid., 331.

⁵⁹ORA, Ser. I, Vol. 24, pt. I, 433.

⁶⁰Bearss, 562.

⁶¹ORA, Ser. I, Vol. 24, pt. I, 433.

⁶²ORA, Ser. I, Vol. 24, pt. I, 457.

⁶³Bearss, 571.

Chapter 4

¹Ulysses S. Grant, Ulysses S. Grant Memoirs and Selected Letters Vol. I (New York: The Library of America, 1990), 306.

²Grant to Hurlbut, January 3, 1863, in ORA, Ser. I, Vol. 17, pt. II, 526. Porter to Welles, in ORN, Ser. I, Vol. 24, 93.

³Bruce Catton, Grant Moves South (Boston: Little Brown and Company, 1960), 340.

⁴William T. Sherman, Memoirs of General W. T. Sherman (New York: The Library of America, 1990), 319.

⁵*Ibid.*

⁶David D. Porter, Admiral, U.S. Navy, The Naval History of the Civil War (Secaucus: Castle, 1984), 288.

⁷Porter to Welles, January 3, 1863, in ORN, Ser. I, Vol. 24, 93.

⁸Porter to Shaw, January 4, 1863, in ORN, Ser. I, Vol. 24, 96.

⁹Porter to McClelland, January 7, 1863, in ORN, Ser. I, Vol. 24, 100.

¹⁰*Ibid.*

¹¹Schwartz to Porter, January 6, 1863, in ORN, Ser. I, Vol. 24, 99.

¹²McClelland to Sherman, January 5, 1863, in ORA, Ser. I, Vol. 17, pt. II, 537-538.

¹³Special Order No. 5, January 8, 1863, in ORA, Ser. I, Vol. 17, pt. II, 549.

¹⁴*Ibid.*

¹⁵General Order No. 30, January 7, 1863, in ORN, Ser. I, Vol. 24, 100.

¹⁶McClelland to Porter, January 8, 1863, in ORA, Ser. I, Vol. 17, pt. II, 547.

¹⁷Stewart to Porter, January 8, 1863, in ORA, Ser. I, Vol. 17, pt. II, 547.

¹⁸McClelland to Porter, January 8, 1863, in ORA, Ser. I, Vol. 17, pt. II, 547.

¹⁹Report of Maj. Gen. John A. McClelland, January 20, 1863, in ORA, Ser. I, Vol. 17, pt. I, 704.

104. ²⁰Porter to McClelland, January 11, 1863, in ORN, Ser. I, Vol. 24, 106.
- ²¹Porter's General Order of Battle, January 10, 1863, in ORN, Ser. I, Vol. 24, 104.
- ²²Porter to McClelland, January 11, 1863, in ORN, Ser. I, Vol. 24, 106.
- ²³Morgan to Schwartz, January 17, 1863, in ORA, Ser. I, Vol. 17, pt. I, 723.
- ²⁴Foster to Gordon, January 12, 1863, in ORA, Ser. I, Vol. 17, pt. I, 749.
- ²⁵Colonel Thomas L. Snead, "The Conquest of Arkansas," in B&L, 453.
- ²⁶Porter to Welles, January 11, 1863, in ORN, Ser. I, Vol. 24, 108.
- ²⁷Porter to McClelland, January 13, 1863, in ORN, Ser. I, Vol. 24, 121.
- ²⁸McClelland to Grant, January 11, 1863, ORA, Ser. I, Vol. 17, pt. I, 699.
- ²⁹David D. Porter, Admiral, U.S. Navy, The Naval History of the Civil War (Secaucus: Castle, 1984), 292.
- ³⁰*Ibid.*
- ³¹Grant to McPherson, January 16, 1863, in ORA, Ser. I, Vol. 17, pt. II, 569.
- ³²Porter to Brown, January 29, 1863, in ORN, Ser. I, Vol. 24, 207.
- ³³Porter to Welles, February 2, 1863, in ORN, Ser. I, Vol. 24, 218.
- ³⁴Porter to Grant, February 1, 1863, in ORN, Ser. I, Vol. 24, 217.
- ³⁵Bearss Vol. I, 616.
- ³⁶A. T. Mahan, The Gulf and Inland Waters, (New York: Charles Scribner's Sons, 1883), 124.
- ³⁷Porter to Ellet, February 2, 1863, in ORN, Ser. I, Vol. 24, 218.
- ³⁸Porter to Welles, February 7, 1863, in ORN, Ser. I, Vol. 24, 320.
- ³⁹This figure comes from an approximate count of the nonmilitary message traffic in the ORA and ORN for the period of operations on the western waters from December 1862 to July 1863.

- ⁴⁰Grant to Porter, February 15, 1863, in QRN, Ser. I, Vol. 24, 342.
- ⁴¹Ibid.
- ⁴²Porter to Gorman, February 15, 1863, in QRN, Ser. I, Vol. 24, 344.
- ⁴³Grant to Porter, March 29, 1863, in ORA, Ser. I, Vol. 24, pt. III, 152.
- ⁴⁴Porter to Grant, March 29, 1863, in ORA, Ser. I, Vol. 24, pt. III, 152.
- ⁴⁵Grant to Porter, April 2, 1863, in QRN, Ser. I, Vol. 24, 521.
- ⁴⁶Grant, 307.
- ⁴⁷Grant, 314.
- ⁴⁸David D. Porter, Admiral, U. S. Navy Naval History of the Civil War. (Secaucus: Castle, 1984), 308.
- ⁴⁹Porter to McClelland, April 22, 1863, in ORA, Ser. I, Vol. 24, pt. III, 222.
- ⁵⁰Grant, 317.
- ⁵¹Ibid., 318.
- ⁵²Breese to Welles, May 3, 1863, in QRN, Ser. I, Vol. 24, 594.
- ⁵³Porter to Breese, May 14, 1863, in QRN, Ser. I, Vol. 24, 596.
- ⁵⁴Grant to Porter, March 29, 1863, in ORA, Ser. I, Vol. 24, pt. III, 151-152.
- ⁵⁵ORA, Series I, Vol. XXIV, part III, 272.
- ⁵⁶Porter to Grant, February 13, 1863, in QRN, Ser. I, Vol. 24, 356.
- ⁵⁷Stephen D. Lee, "The campaign of Vicksburg, Mississippi, in 1863 - From April 15 to and Including the Battle of Champion Hills, or Baker's Creek, May 16, 1863" in Publications of the Mississippi Historical Society, Vol III, (Mississippi: Printed for the Society, 1900), 59.
- ⁵⁸B&L, Vol. III, 569.
- ⁵⁹Grant, 360.
- ⁶⁰Ibid.

Chapter 5

¹Sherman to Porter, in ORA, Series I, Vol. 24, Part III, 473.

²Department of the Army, Joint Pub 1. Joint Warfare of the Armed Forces (Washington, DC: Government Printing Office, November 1991), iii.

³Department of the Army, FM 100-5. Operations (Washington, DC: Government Printing Office, May 1986), 28.

⁴LTC John W. Baker, U.S.A. and LTC Lee C. Dickson, U.S.A., "Army Forces In Riverine Operations," Military Review 8 (August 1967): 68.

APPENDIX A

FIGURES

Figure 1

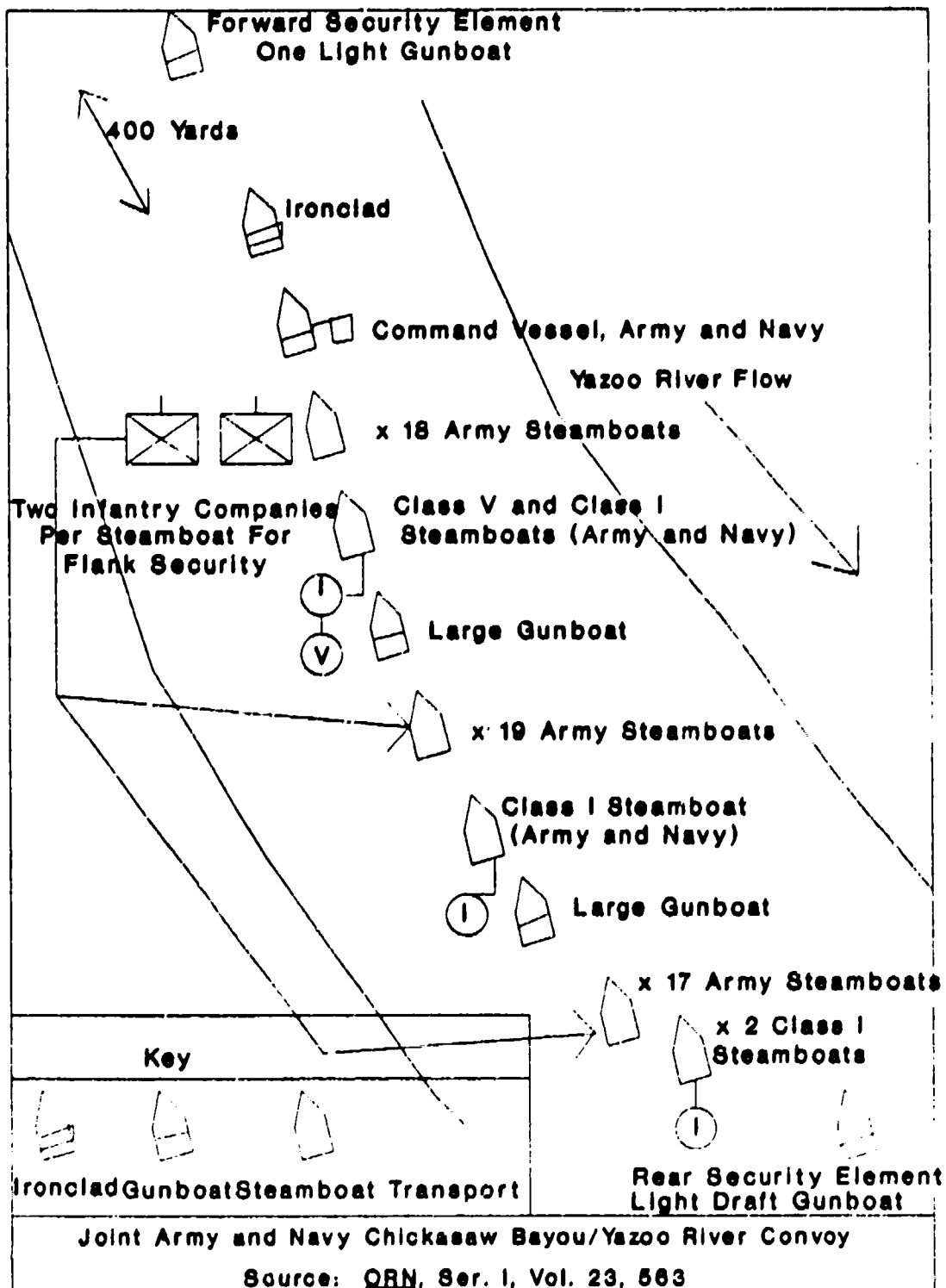


Figure 2

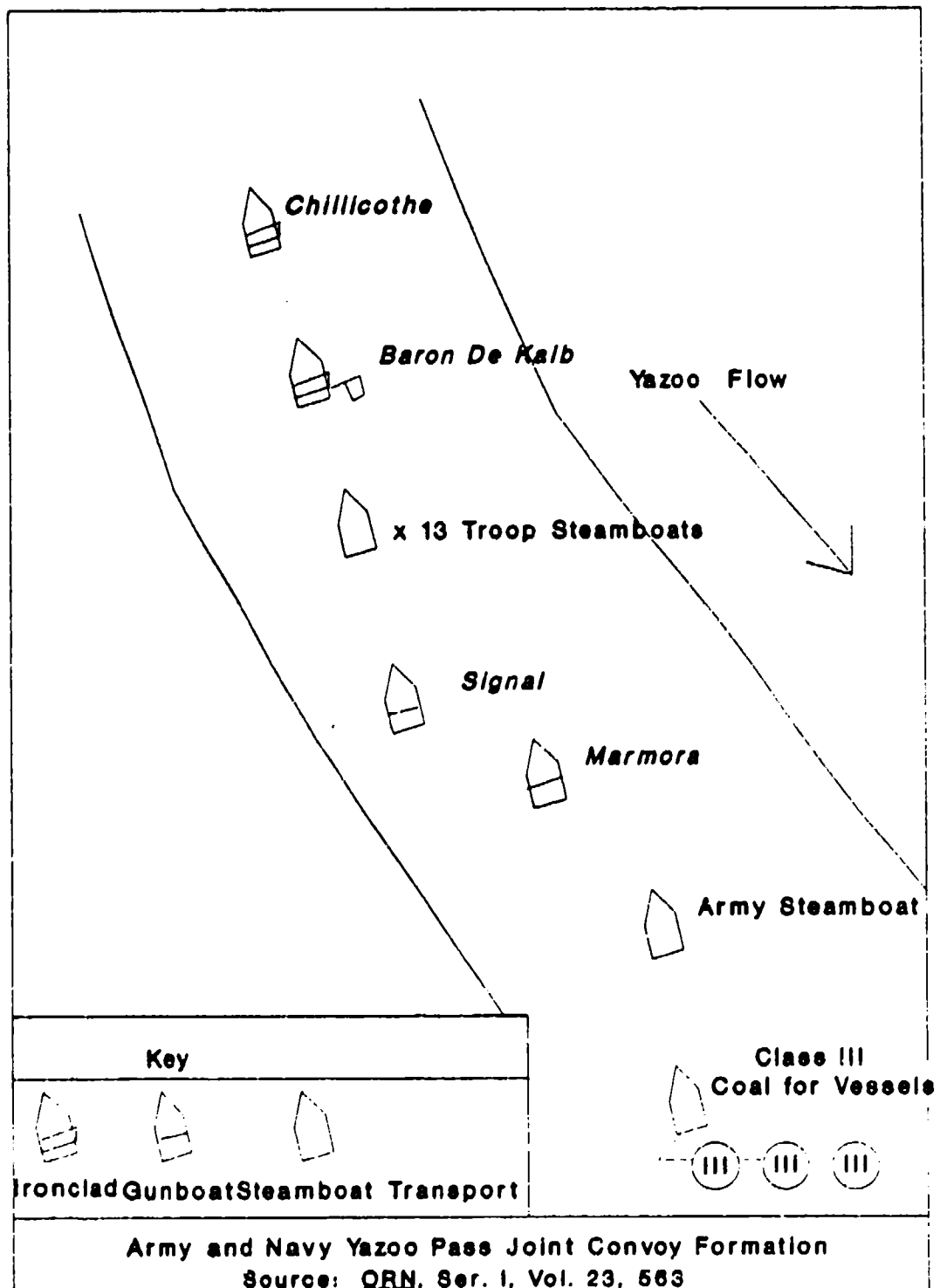


Figure 3

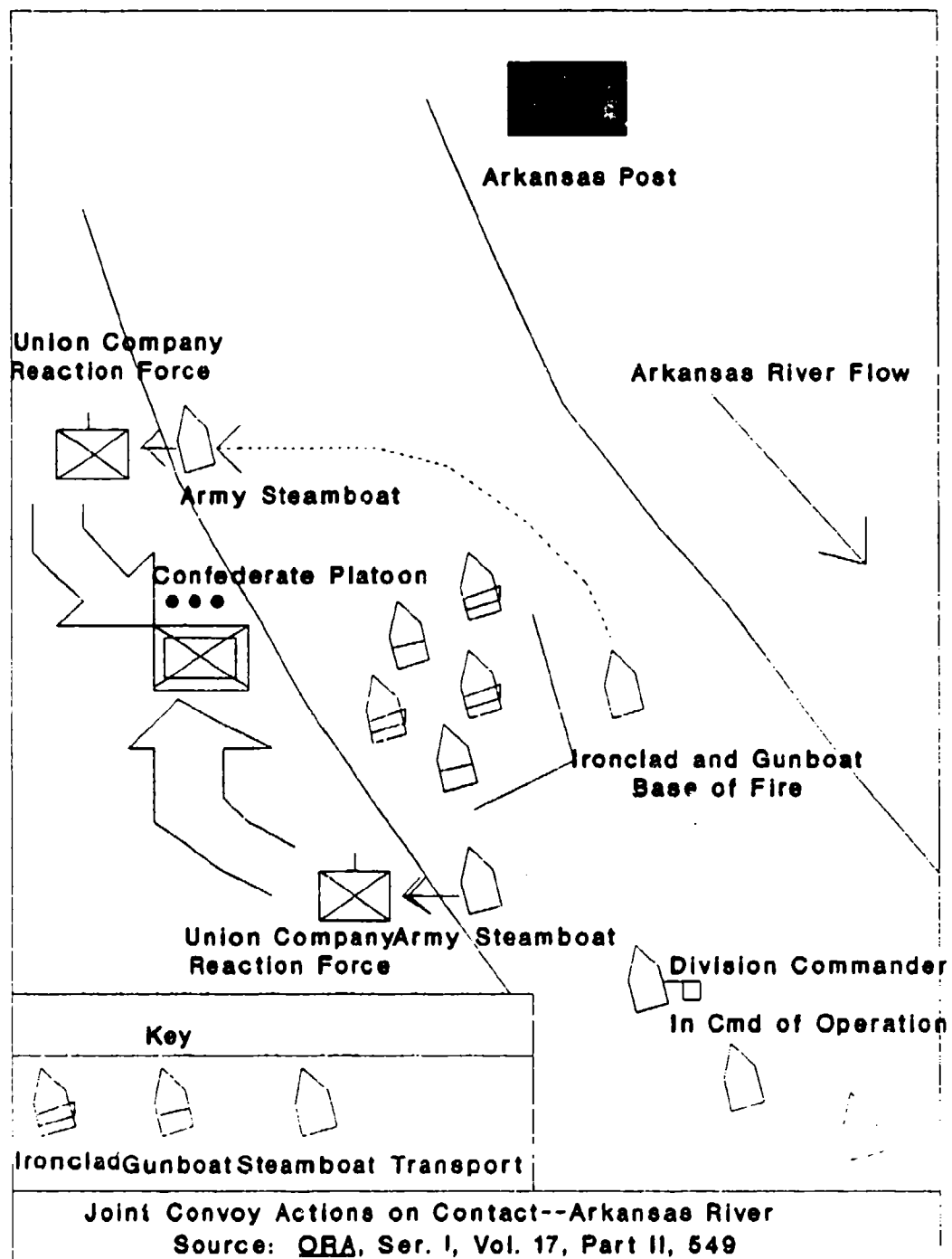


Figure 4

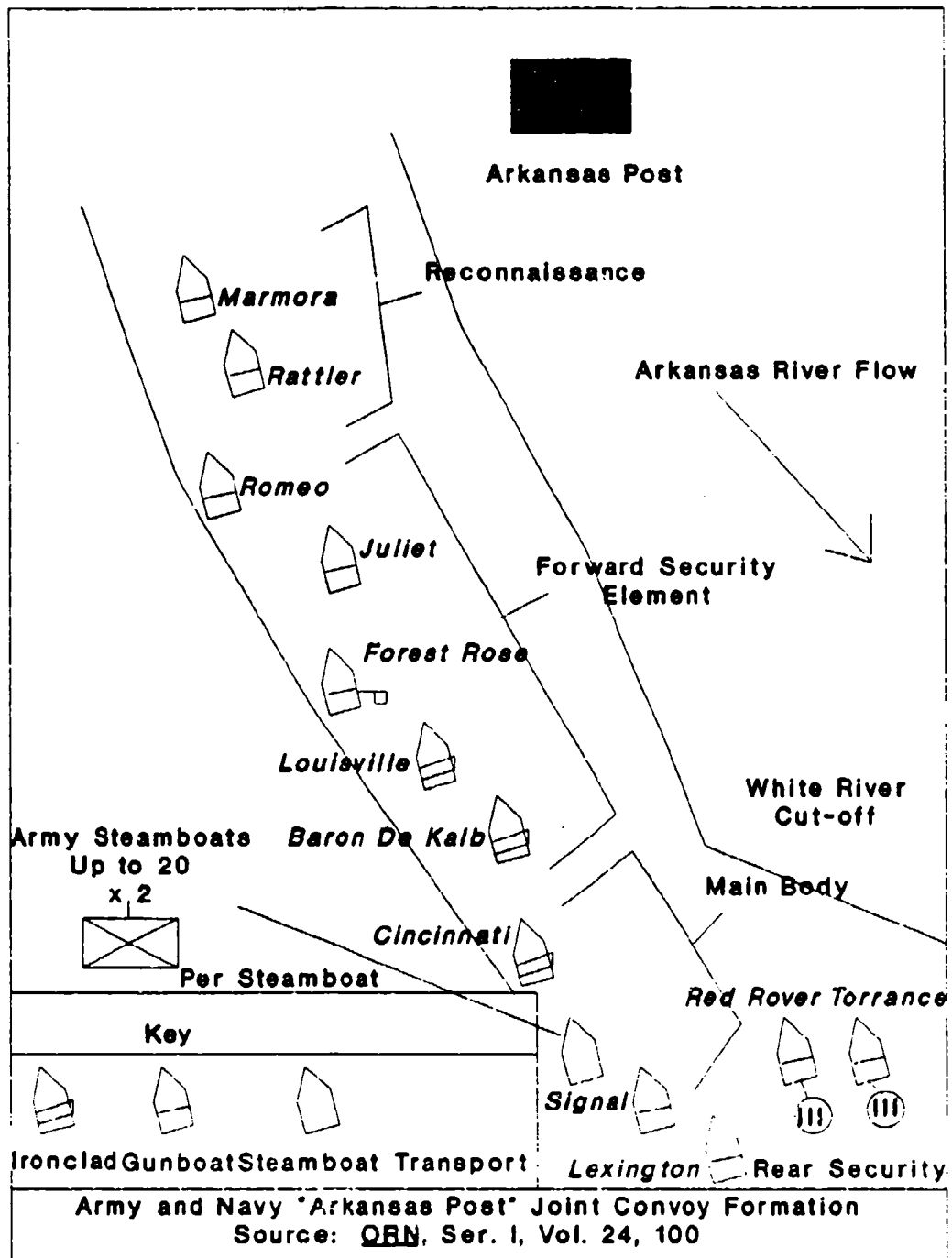


Figure 5

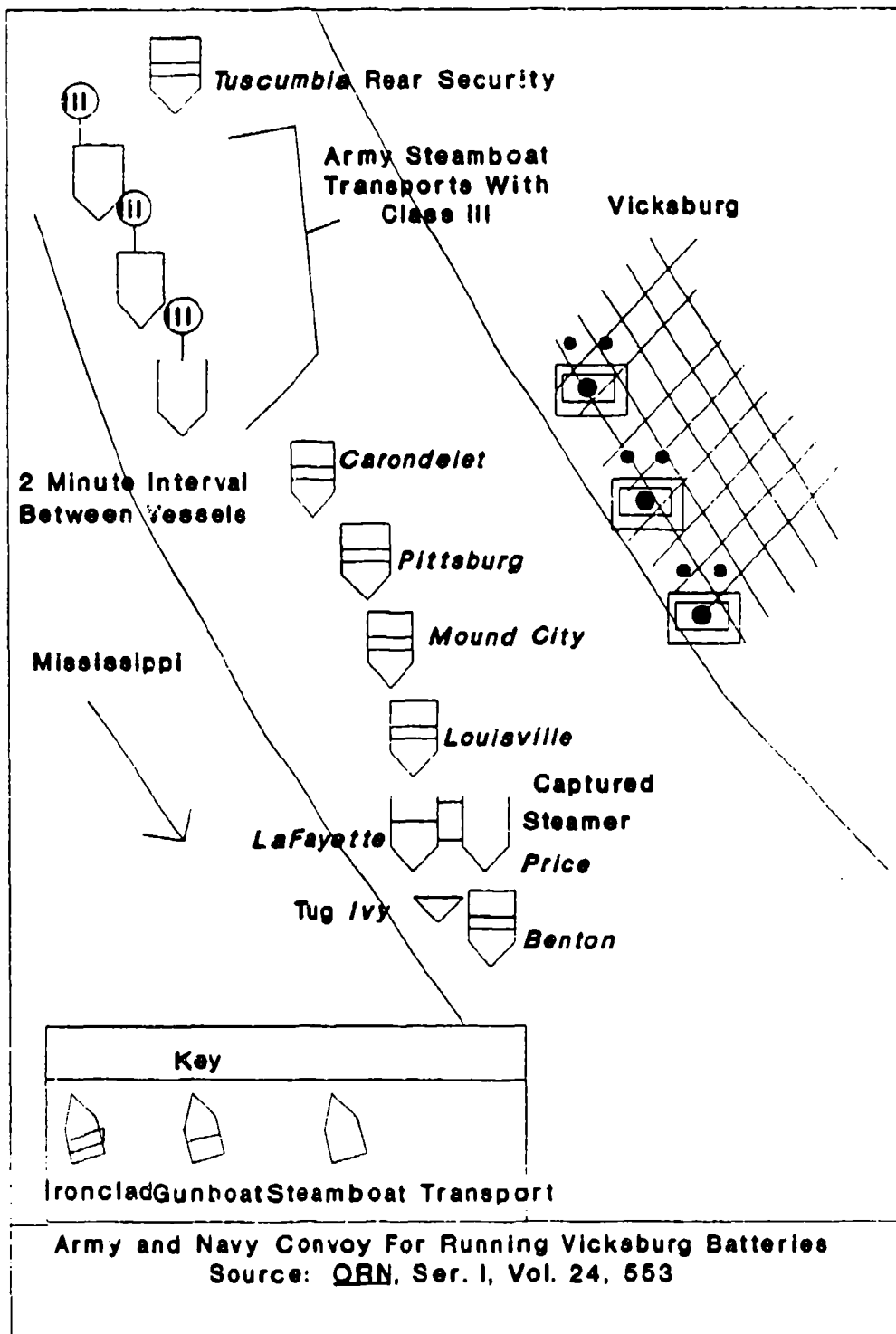


Figure 6

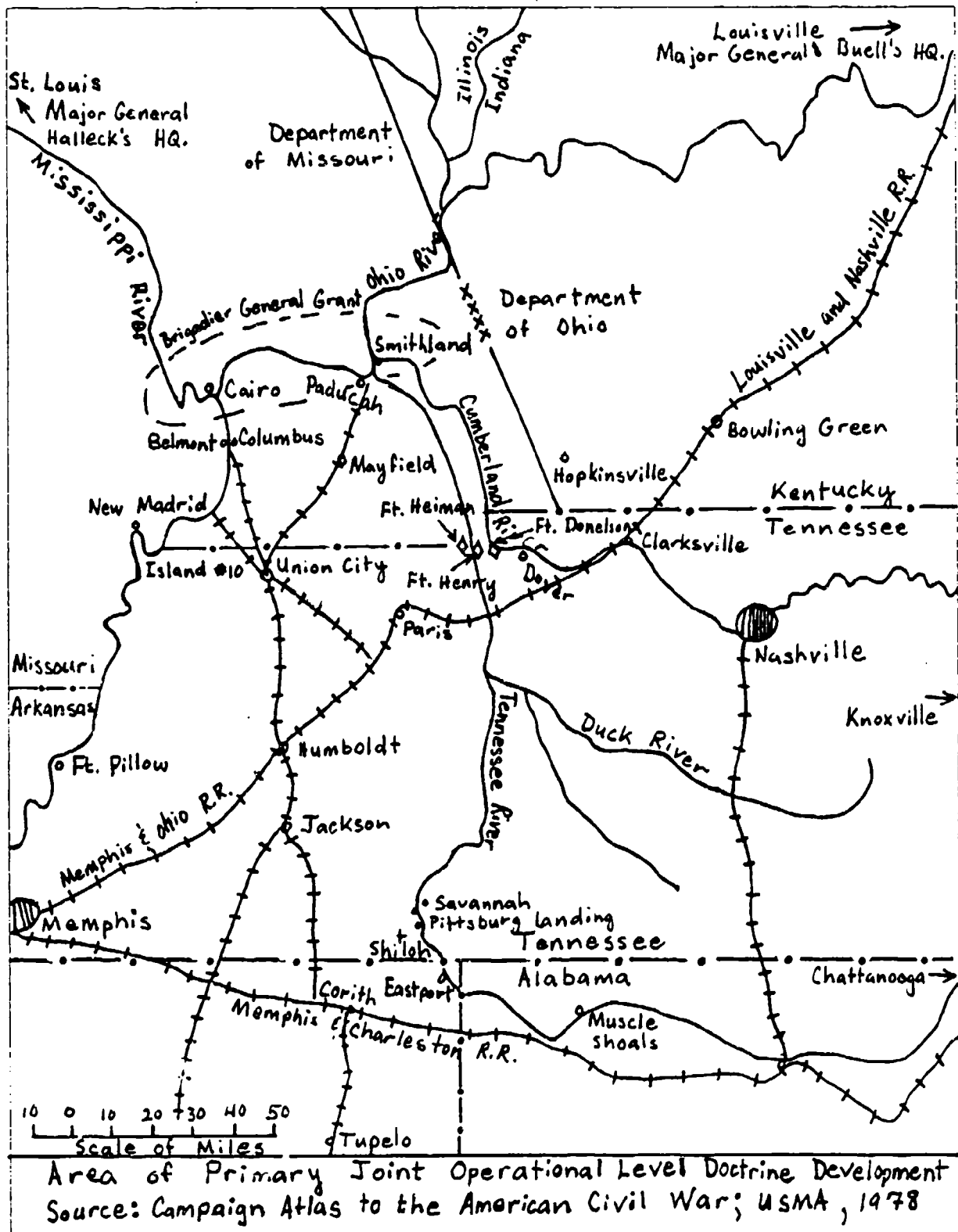


Figure 7

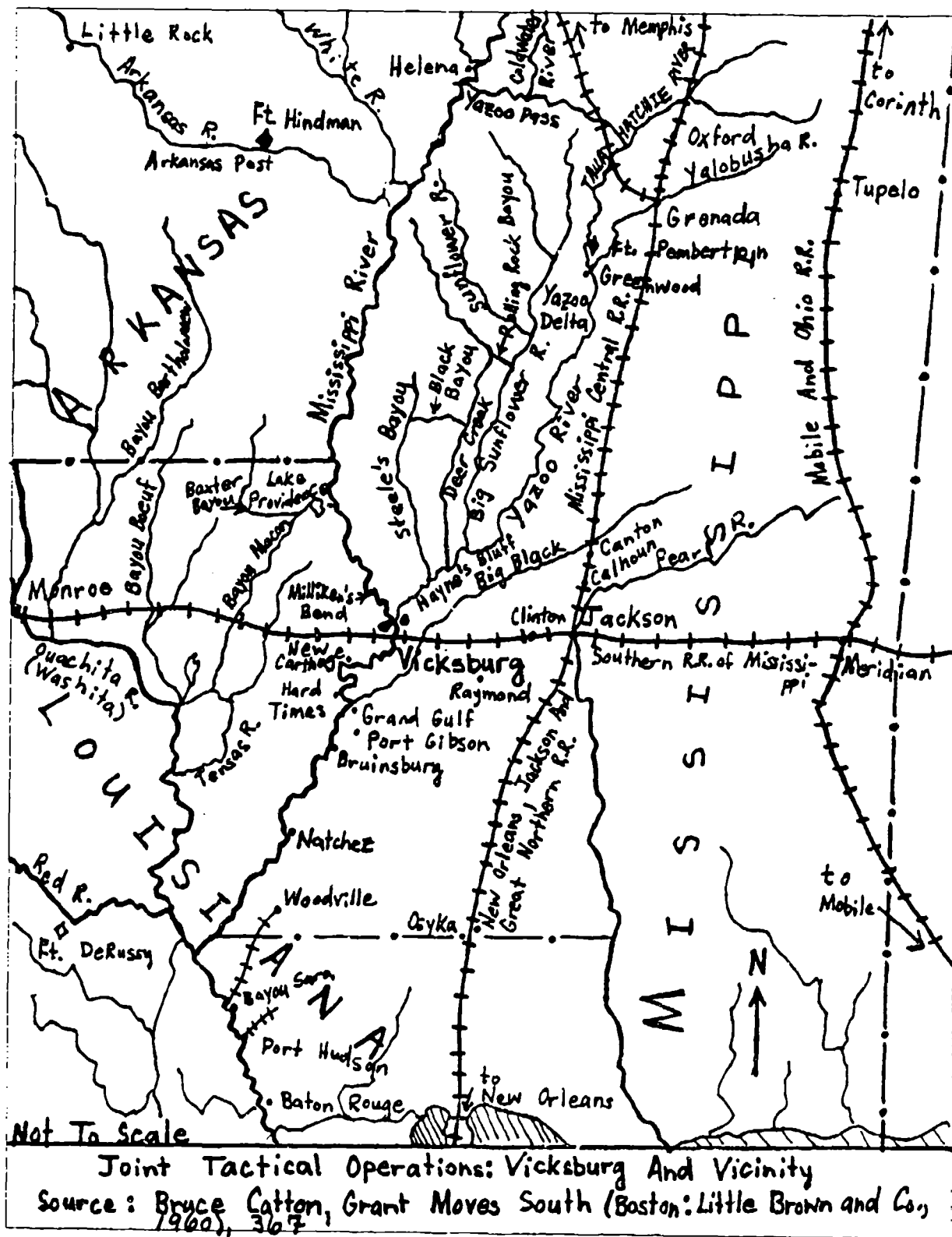
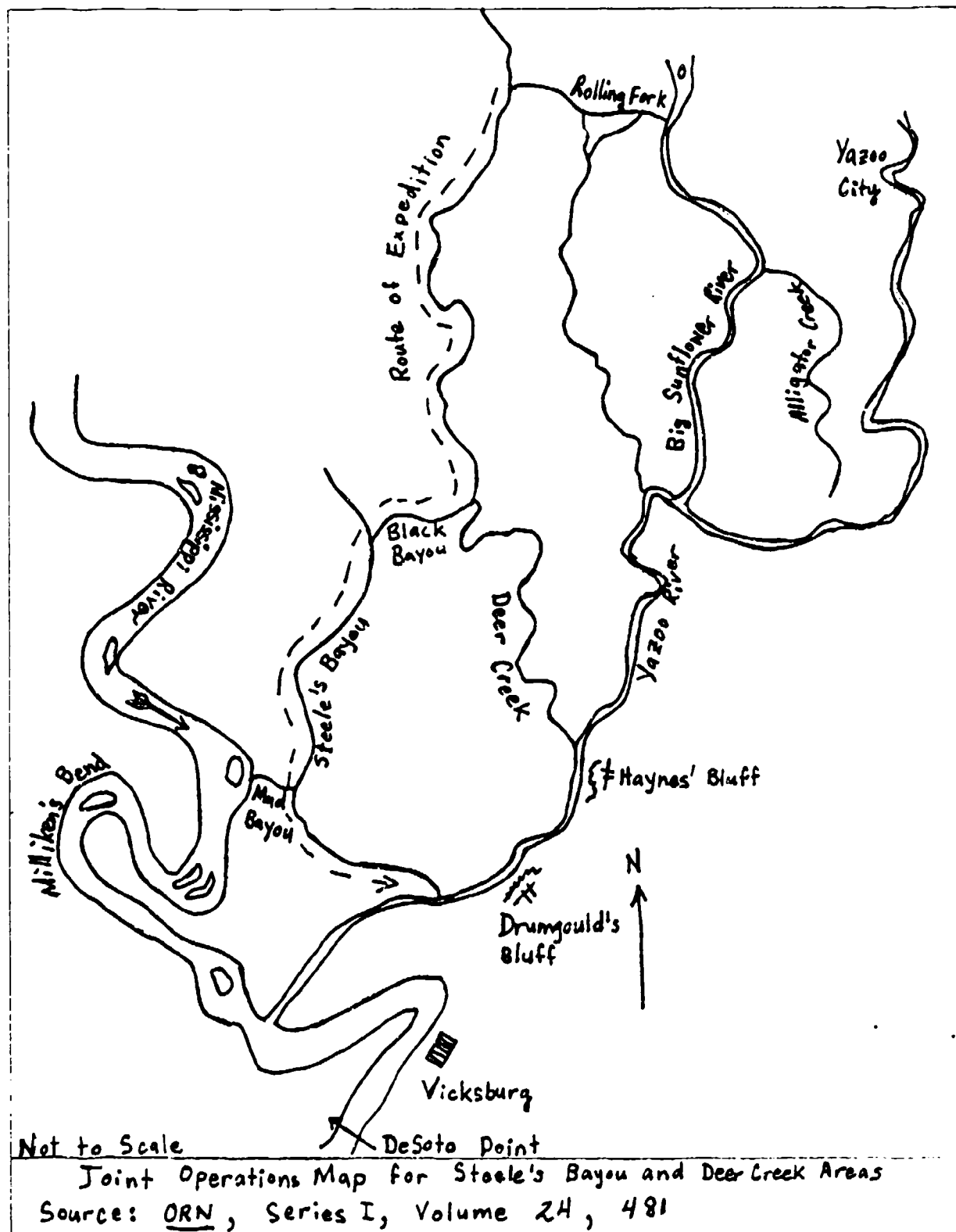


Figure 8



APPENDIX B
ARMY AND NAVY ORDER OF BATTLE

Chickasaw Bayou Force of Maj. Gen. William T. Sherman and Steamboats¹

Units

Steamboats²

First Division - Brig. Gen. Andrew J. Smith
Escort - Company C, 4th Indiana Cavalry
two companies 23d Wisconsin

Des Arc
Ohio Belle

1st Brigade - Brig. Gen. Stephen G. Burbridge

J. C. Snow

16th Indiana Infantry, Col. T. J. Lucas
60th Indiana Infantry, Col. R. Owen
67th Indiana Infantry, Col. F. Emerson
83d Ohio Infantry, Lt. Col. W. H. Baldwin
96th Ohio Infantry, Col. J. W. Vance
23d Wisconsin Infantry, Col. J. J. Guppy
Commissary Boat
Ordnance Boat

J. C. Snow
Metropolitan
J. S. Pringle
Citizen
Hiawatha
J. H. Dickey
Champion
General Anderson

2nd Brigade - Col. William J. Landram

City of Alton

77th Illinois Infantry, Col. D. P. Grier
97th Illinois Infantry, Col. F. S. Rutherford
108th Illinois Infantry, Col. J. Warner
131st Illinois Infantry, Col. G. W. Neeley
89th Indiana Infantry, Col. C. D. Murray
19th Kentucky Infantry, Lt. Col. J. Cowan
48th Ohio Infantry, Lt. Col. J. R. Parker

Duke of Argyle
Robert Campbell
City of Alton
Iowa
Citizen
J. W. Cheeseman
City of Alton

Artillery

Chicago Mercantile Battery (6 guns)
17th Company, Ohio Light Artillery (6 guns)

City of Louisiana
Hiawatha

¹Bearss, 227-229.

²ORN, Ser. I, Vol. 23, 563-564.

Second Division - Brig. Gen. Morgan L. Smith (wounded)
 Brig. Gen David Stuart *Chancellor*

1st Brigade - Col. Giles A. Smith

113th Illinois Infantry, Col. G. B. Hoge	<i>Edw'd Walsh</i>
116th Illinois Infantry, Col. N. W. Tupper	<i>Planet</i>
6th Missouri Infantry, Lt. Col. J. H. Blood	<i>Universe</i>
8th Missouri Infantry, Lt. Col. D. C. Coleman	<i>City of Memphis</i>
13th U.S. Infantry (1st Battalion), Maj. D. Chase	

4th Brigade - Brig. Gen. David Stuart (wounded)
 Col. T. Kilby Smith

Westmoreland

55th Illinois Infantry, Lt. Col. O. Malmberg	<i>Westmoreland</i>
127th Illinois Infantry, Col. J. Van Arman	<i>Spread Eagle</i>
83d Indiana Infantry, Col. B. J. Spooner	<i>Sioux City</i>
54th Ohio Infantry, Col. T. K. Smith	<i>Sunny South</i>
57th Ohio Infantry, Col. W. Mungen	<i>Omaha</i>
Commissary Boat	<i>Robt. Allen</i>

Artillery

Company A, 1st Illinois Light Artillery (6 guns)	<i>City of Memphis</i>
Company B, 1st Illinois Light Artillery (6 guns)	<i>City of Memphis</i>
Section, Company H, 1st Illinois Light Artillery (2 guns)	<i>Planet</i>

Third Division - Brig. Gen. George W. Morgan *Empress*

1st Brigade - Col. Lionel A. Sheldon *Jesse K. Bell*

118th Illinois Infantry, Col. J. G. Fonda	<i>Key West No. 2</i>
69th Indiana Infantry, Col. T. W. Bennett	<i>Sam Gaty</i>
120th Ohio Infantry, Col. D. French	<i>Northener</i>

2d Brigade - Col. Daniel W. Lindsey *Belle Peoria*

49th Indiana Infantry, Col. J. Keigwin	<i>War Eagle</i>
7th Kentucky Infantry, Lt. Col. J. W. Ridgell	
114th Ohio Infantry, Lt. Col. H. B. Maynard	<i>Henry von Phul</i>

Union Navy Vessel Order of Battle For the Army Assaults at Chickasaw Bayou ¹

Gunboats

<u>NAME</u>	<u>TONNAGE</u>	<u>CLASS</u>	<u>GUNS</u>
<i>Conestoga</i>	512	Side-wheel steamer	5
<i>Marmora</i>	207	Stern-wheel steamer	8
<i>Signal</i>	190	"	6
<i>Tyler</i>	575	Side-wheel steamer	10

Ironclads

<u>NAME</u>	<u>TONNAGE</u>	<u>CLASS</u>	<u>GUNS</u>
<i>Benton</i>	1000	Ironclad	16
<i>Baron De Kalb</i>	512	"	14
<i>Carondelet</i>	"	"	"
<i>Chillicothe</i>	395	"	2
<i>Cincinnati</i>	512	"	14
<i>Indianola</i>	511	Ironclad (side-wheel and screw)	2
<i>Louisville</i>	326	Ironclad (center-wheel)	14
<i>Mound City</i>	512	"	"
<i>Lexington</i>	448	Ironclad	8
<i>Pittsburg</i>	512	Ironclad (center-wheel)	14

¹Extracted from United States Vessels of War Serving In the Mississippi Squadron, January 1 to May 17, 1863, in ORN, Ser. I, Vol. 24, xv.

Arkansas Post Joint Force of Maj. Gen. John A. McClelland and Steamboats¹

<u>Units</u>	<u>Steamboats</u>
Army of the Mississippi, Maj. Gen. John A. McClelland	<i>Tigress</i>
XIII Army Corps, Brig. Gen. George W. Morgan Escort, Company A, 3d Illinois Cavalry, Capt R. H. Ballinger	<i>Empress</i>
First Division, Brig. Gen. Andrew J. Smith Escort, Co. C, 4th Indiana Cavalry, Capt. J. P. Leslie	<i>Des Arc</i> <i>Des Arc</i>
1st Brigade, Brig. Gen. Stephen G. Burbridge 16th Indiana Infantry, Lt. Col. J. M. Orr (wounded) Maj. J. B. Redfield 60th Indiana Infantry, Col. R. Owen 67th Indiana Infantry, Col. F. Emerson (w) 83d Ohio Infantry, Lt. Col. W. H. Baldwin 96th Ohio Infantry, Col. J. W. Vance 23d Wisconsin Infantry, Col. J. J. Guppey	<i>J. C. Snow</i> <i>Citizen</i> <i>Metropolitan</i> <i>J. S. Pringle</i> <i>J. W. Cheeseman</i> <i>R. Campbell, jr.</i> <i>Duke of Argyle</i> <i>Iowa</i>
2d Brigade, Col. William J. Landram 77th Illinois Infantry, Col. D. P. Grier 97th Illinois Infantry, Col. F. S. Rutherford 108th Illinois Infantry, Col. J. Warner 131th Illinois Infantry, Lt. Col. R. A. Peter 19th Kentucky Infantry, Lt. Col. J. Cowan 48th Ohio Infantry, Lt. Col. J. R. Parker (w) Capt. S. G. W. Patterson	<i>City of Alton</i> <i>City of Louisiana</i> <i>J. H. Dickey</i> <i>Ohio Belle</i> <i>J. C. Snow</i> <i>Citizen</i> <i>Metropolitan</i>
Artillery Chicago Mercantile Battery (6 guns), Capt. C. G. Cooley 17th Battery, Ohio Light Artillery (6 guns), Capt. A. A. Blount	<i>Citizen</i> <i>J. S. Pringle</i>

¹Bearss, Vol. I, 415-418, and ORA, Ser. I, Vol. 17, pt. II, 573. Army, Corps, and division steamboats are accurate for the headquarters named. Some of the regiments, artillery, and cavalry might not be totally accurate, due to variations in personnel carrying capacities of some vessels.

Cavalry

Squadron, 6th Missouri Cavalry, Col. C. Wright

City of Alton

Second Division, Brig. Gen. Peter J. Osterhaus

Fannie Bullit

1st Brigade, Col. Lionel A. Sheldon

Lady Jackson

118th Illinois Infantry, Col. J. G. Fonda

War Eagle

69th Indiana Infantry, Col. T. W. Bennett

Pembina

120th Ohio Infantry, Col. D. French

Des Moines

2d Brigade, Col. David W. Lindsey

Jessee K. Bell

49th Indiana, Col. J. Keigwin

Northener

3d Kentucky Infantry, Capt. A. Clark

Key West

114th Ohio Infantry, Lt. Col. H. B. Maynard

Belle Peoria

3d Brigade, Col. John F. DeCourcy

Crescent City

54th Indiana Infantry, Col. F. Mansfield

Northener

22d Kentucky Infantry, Maj. W. J. Worthington

Lady Jackson

16th Ohio Infantry, Capt. E. W. Botsford

War Eagle

42d Ohio Infantry, Lt. Col. D. A. Pardee

Pembina

Artillery

7th Battery, Michigan Light Artillery (3 guns)

Des Moines

Capt. W. J. Lanphere

1st Battery, Wisconsin Light Artillery (4 guns)

Jessee K. Bell

Capt. J. T. Foster

Also the boats *General Anderson*, ordnance boat; *Lavinia Logan*, ordnance boat; *Adriatic*, commissary boat; *Warsaw*, quartermaster's department; *Isabella*, quartermaster's department; *Luzerne*, quartermaster's department, sent to Memphis; *Madison*, commissary.

XV Army Corps, Maj. Gen. William T. Sherman

Forest Queen

Escort, Kane County (Illinois) Cavalry,

Forest Queen

Capt. W. C. Wilder

First Division, Brig. Gen. Frederick Steele

Continental

1st Brigade, Brig. Gen. Frank Blair

Dacotah

13th Illinois Infantry, Lt. Col. A. B. Gorgas

Tecumseh

29th Missouri Infantry, Col. J. S. Cavender

Gladiator

30th Missouri Infantry, Lt. Col. O. Schadt

Emma

31st Missouri Infantry, Lt. Col. S. P. Simpson

Meteor

32d Missouri Infantry, Col. F. H. Manter
58th Ohio Infantry, Capt. B. Benkler
4th Battery, Ohio Light Artillery,
Capt. Louis Hoffman

Fanny Ogden
Sucker State
Ella

2d Brigade, Brig. Gen. Charles E. Hovey (w)
Staff

Decatur

25th Iowa Infantry, Col. G. A. Stone
31th Iowa Infantry, Col. W. Smyth
3d Missouri Infantry, Col. I. F. Shepard
12th Missouri Infantry, Col. H. Wangelin
17th Missouri Infantry, Col. F. Hassendeubel
76th Ohio Infantry, Col. C. R. Woods
Company F, 1st Missouri Light Artillery (4 guns),
Capt. C. Landgraeber

Polar Star
Thomas E. Tutt
Kennett
John Warner
D. G. Taylor
J. R. Williams
Ella

3d Brigade, Brig. Gen. John M. Thayer
4th Iowa Infantry, Col. J. A. Williamson
9th Iowa Infantry, Lt. Col. W. H. Coyl
26th Iowa Infantry, Col. M. Smith
30th Iowa Infantry, Lt. Col. W. M. B. Torrence
34th Iowa Infantry, Col. G. W. Clark
1st Battery, Iowa Light Artillery (6 guns),
Capt. H. H. Griffiths

Emma
Meteor
Fanny Ogden
Sucker State
Ella
Decatur
Polar Star

Cavalry

3d Illinois Cavalry, Col. L. McCrillis

Wisconsin and barges,
Champion, Von Phul,
Hlawatha

Second Division, Brig. Gen. David Stuart

Westmoreland

1st Brigade, Col. Giles Smith
113th Illinois Infantry, Col. G. B. Hoge
116th Illinois Infantry, Lt. Col. J. P. Boyd
6th Missouri Infantry, Lt. Col. J. H. Blood
8th Missouri Infantry, Lt. Col. D. C. Coleman (w)
Maj. D. T. Kirby
13th U.S. Infantry (1st Battalion), Maj. D. Chase

Spread Eagle
Universe
Sunny South
Chancellor
Omaha

3d Brigade, Col. Thomas Kilby Smith
55th Illinois Infantry, Lt. Col. O. Malmborg
127th Illinois Infantry, Col. J. Van Arman
83d Indiana Infantry, Col. B. J. Spooner

Sioux City
Southwester
R. Allen
E. Walsh
Planet

54th Ohio Infantry, Capt. S. B. Yoeman (w)
57th Ohio Infantry, Col. W. Mungen

Universe
Omaha

Artillery, Maj. E. Taylor

Company A, 1st Illinois Light Artillery (6 guns),
Capt. P. P. Wood
Company B, 1st Illinois Light Artillery (6 guns),
Capt. S. E. Barrett
Company H, 1st Illinois Light Artillery (4 guns),
Lt. L. W. Hart
8th Battery, Ohio Light Artillery,
Lt. J. F. Putman

Sunny South

Chancellor

Southwester

Planet

Cavalry

Companies A and B, Theilemann's Illinois Battalion
Capt. B. Marscher
Company C, 10th Missouri Cavalry,
Lt. D. W. Ballou

Spread Eagle

E. Walsh

Union Naval Vessels Order of Battle for the Joint Attack on Arkansas Post¹

Gunboats

<u>Name</u>	<u>Tonnage</u>	<u>Class</u>	<u>Guns</u>
<i>Lexington</i>	448	Side-wheel Steamer	7
<i>Rattler</i>	165	Paddle-wheel Steamer	6
<i>Clyde</i>	294	Side-wheel Steamer	4
<i>New Era</i>	157	Stern-wheel Steamer	6
<i>Blackhawk</i>	902	Side-wheel steamer	10

Ironclads

<u>Name</u>	<u>Tonnage</u>	<u>Class</u>	<u>Guns</u>
<i>Baron De Kalb</i>	512	Ironclad	14
<i>Cincinnati</i>	395	Ironclad	2
<i>Louisville</i>	326	Ironclad (center-wheel)	14

¹ORA, Ser. I, Vol. 17, pt. I, 711, and ORA, Ser. II, Vol. 1, pt. 1-4.

Yazoo Pass Force of Brig. Gen. L. T. Ross and Steamboats¹

<u>Units</u>	<u>Steamboats</u>
Thirteenth Division, Brig. Gen. L. T. Ross	<i>Small</i>
1st Brigade, Brig. Gen. Frederick Saloman	<i>Small</i>
43d Indiana Infantry, Col. W. E. McLean	<i>Lawyer</i>
46th Indiana Infantry, Col. T. Bringhurst	<i>Lebanon No. 2</i>
47th Indiana Infantry, Lt. Col. J. A. McLaughlin	<i>Citizen</i>
2d Brigade, Brig. Gen. Clinton B. Fisk	<i>Lebanon</i>
29th Iowa Infantry, Lt. Col. R. F. Patterson	<i>Cheeseman</i>
33d Iowa Infantry, Col. S. A. Rice	<i>Mariner</i>
36th Iowa Infantry, Col. C. W. Kittredge	<i>Saint Louis</i>
33d Missouri Infantry, Col. W. A. Pile	<i>Volunteer</i>
28th Wisconsin Infantry, Lt. Col. C. Whitaker	<i>Lavinia Logan</i>
Artillery	
Company A, 1st Missouri Artillery (6 guns)	<i>John Bell</i>
Capt. G. W. Schofield	
3d Battery, Iowa Light Artillery (6 guns)	<i>Key West No. 2</i>
Capt. M. M. Hayden	<i>Key West</i>
Seventh Division, Brig. Gen. Isaac F. Quinby (not listed)	

¹Bearss, 591 and steamboats are listed in ORN, Ser. I, Vol. 24, 591.

Union Navy Order of Battle for Joint Operations at Yazoo Pass¹

Gunboats

<u>NAME</u>	<u>TONNAGE</u>	<u>CLASS</u>	<u>GUNS</u>
<i>Rattler</i>	165	Paddle-wheel steamer	6
<i>Marmora</i>	207	Stern-wheel steamer	8
<i>Signal</i>	190	Stern-wheel steamer	6
<i>Romeo</i>	175	"	6
<i>Petrel</i>	226	Paddle-wheel steamer	8
<i>Forest Rose</i>	260	Stern-wheel steamer	6

Ironclads

<u>NAME</u>	<u>TONNAGE</u>	<u>CLASS</u>	<u>GUNS</u>
<i>Baron De Kalb</i>	1000	Ironclad	14
<i>Chillicothe</i>	395	Ironclad	2

Rams

<u>NAME</u>	<u>TONNAGE</u>	<u>CLASS</u>	<u>GUNS</u>
<i>Dick Fulton</i>	698	Side-Wheel Steamer	0
<i>Lioness</i>	?	?	?

¹Bearss, 593 and ORN, Ser. I, Vol. 24, 240-270.

Joint Army and Navy Force Against Grand Gulf¹

<u>Naval Gunboat</u>	<u>Army Unit on Gunboat</u>
<i>Mound City</i>	A, B/58th Ohio Infantry
<i>Carondelet</i>	D/58th Ohio Infantry
<i>Benton</i>	F, G/58th Ohio Infantry
<i>Pittsburg</i>	H/58th Ohio Infantry
<i>Louisville</i>	K/58th Ohio Infantry

¹ORN, Ser. I, Vol. 24, 630.

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